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# INFANTRY TRAINING
# VOLUME II
## Skill at Arms (Personal Weapons)

Pamphlet No.8 Part 1

# GENERAL PURPOSE MACHINE GUN
## Light Role

(All Arms)

RESTRICTED

1975

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# INFANTRY TRAINING

## Volume II

## Skill at Arms

## (Personal Weapons)

*

## Pamphlet No. 8, Part I

## The General Purpose Machine Gun

## (Light Role)

## (All Arms)

## 1975



MINISTRY OF DEFENCE
JULY 1975

PREPARED UNDER THE DIRECTION OF
THE CHIEF OF THE GENERAL STAFF.

## FOREWORD

Any person wishing to propose amendments to this pamphlet is invited to write to the Chief Instructor of Small Arms Wing, School of Infantry, Warminster, Wiltshire. Any such proposals will be given consideration and, if there is a requirement for them, the appropriate amendments will be prepared by the School of Infantry for submission to Headquarters, Director of Infantry.

This pamphlet supersedes Infantry Training, Volume I, Infantry Platoon Weapons Pamphlet No. 6A. The General Purpose Machine Gun (Light Role) (All Arms) 1966. Reprinted with Amendments (Nos. 1 to 12) 1973. Army Code No. 70178.

## TECHNICAL DETAILS

### Machine Guns 7·62 mm L7A2 and L7A1 (GPMG)

| | |
|---|---|
| Calibre | 7·62 mm (0·30 inches) |
| Length of Gun | 1·231 m (48·5 inches) |
| Length of Barrel | 679 mm (26·75 inches) |
| Number of grooves in barrel | 4 |
| Pitch of rifling | 1 turn in 305 mm (12 inches) |
| Twist of rifling | Right hand |
| Sight range | 200 to 1800 metres |
| Sight radius | 851 mm (33·5 inches) |
| System of operation | Gas and Spring |
| Cyclic rate of fire | 750 to at least 900 rpm |
| Weights: | |
| Gun | 10·9 kg (24 lb approx) |
| Barrel | 2·828 kg (6 lb approx) |
| 200 round belt | 5·443 kg (12 lb) |

### Mounting, Tripod, 7·62 mm, MG L4A1

| | |
|---|---|
| Overall folded dimensions | 813 x 191 x 191 mm (32 x 7·5 x 7·5 inches) |
| Maximum leg spread: | |
| Across | 1·118 m (44 inches) |
| Front to rear | 1·118 m (44 inches) |
| Weight | 13·62 kg (30 lb approx) |

## CONTENTS

## CHAPTER 4. — INFORMATION FOR INSTRUCTORS



## CHAPTER 5. — MISCELLANEOUS



## ILLUSTRATIONS

## ASSOCIATED PUBLICATIONS, POSTERS, FILMS AND FILMSTRIPS

| Publications: Army Code No. | TITLE |
|---|---|
| 13633 | User Handbook for MACHINE GUNS 7·62 mm L7A7 and L7A1 (GPMG) and MOUNTING TRIPOD, 7·62 mm, MG L4A1 |
| 71012 | Infantry Training, Volume II, Skill at Arms (Personal Weapons), Pamphlet No. 7, The 7·62 mm Self Loading Rifle and Bayonet (All Arms) |
| 60684 | User Handbook for Weaponsight, Image Intensified, L1A2 (Individual Weapon Sight (IWS)) |
| 70485 | Infantry Training, Volume I, Infantry Platoon Weapons, Pamphlet No. 6B, The General Purpose Machine Gun (Sustained Fire Role) (All Arms) |

| Posters: Army Code No. | |
|---|---|
| 70025 (sheets 1–3) | The General Purpose Machine Gun |

| Films: Catalogue No. | |
|---|---|
| C 1215 | The GPMG |

| Filmstrips: Catalogue No. | |
|---|---|
| D 863 | Theory of Small Arms Fire |

### ABBREVIATIONS

| | |
|---|---|
| AA | Anti-Aircraft |
| AFV | Armoured fighting vehicle |
| CEFO | Combat equipment fighting order |
| CQB | Close quarter battle |
| CZP | Correct zero position |
| ESA | Expected scoring area |
| ETR | Electrical target range |

| | |
|---|---|
| Fig | Figure |
| HE | High explosive |
| HPS | Highest possible score |
| IA | Immediate action |
| IWS | Individual weapon sight |
| m | metre |
| mm | millimetre |
| MPI | Mean point of impact |
| POA | Point of aim |
| SLR | Self Loading Rifle |

INFANTRY TRAINING

VOLUME II—SKILL AT ARMS (PERSONAL WEAPONS)

PAMPHLET NO. 8, PART 1

# THE GENERAL PURPOSE MACHINE GUN

## LIGHT ROLE

## INTRODUCTION

### AIM OF THE PAMPHLET

1. This pamphlet contains the instructional material on The General Purpose Machine Gun in the Light Role to enable unit instructors to teach its maintenance, and the handling and shooting skills up to the standard necessary to pass the Training Tests and the Annual Personal Weapon Test to the operational standard required for each Arm or Service.

### LAYOUT OF THE PAMPHLET

2. The pamphlet, written in lesson form, is divided into five chapters as follows:

**a.** Chapter 1 contains the basic skills and information which a soldier requires to know.

**b.** Chapter 2 consists of practice periods which are designed to further develop the skills and techniques learnt.

**c.** Chapter 3 contains instructions regarding live firing and practice designed to ultimately produce a soldier capable of firing efficiently at all times and in all conditions.

**d.** Chapter 4 contains information for the instructor to help him understand the subject and its presentation better. Contained also in this chapter are details of training tests which are used to determine the soldier's handling standard.

**e.** Chapter 5 contains details and information of other equipment allied to the General Purpose Machine Gun.

3. Each lesson is divided into two parts:

**a.** *Part A—Instructors Notes.* This contains the information required by the instructor to enable him to prepare for the lesson.

**b.** *Part B—Conduct of the Lesson.* This contains the matter to be taught and is laid out in a proven sequence.

4. Details printed in *italics* are instructions to the instructor.

## ORGANIZATION OF INSTRUCTION

5. Instructors are allowed latitude in the method they adopt to teach the various lessons provided they do not deviate from the facts and drills laid down. The gun is simple to teach and easy to learn.

6. Practice periods can be repeated according to progress made. However, constant basic lessons and practice without firing are boring for the soldiers. Every effort is to be made to introduce firing practices in the sequence laid down in Appendix 2 to Annex D and Appendix 5 to Annex E of Infantry Training, Volume I, Skill at Arms (Individual Training), Pamphlet No. 1, 'Shoot to Kill' Army Code No. 71008.

## SAFETY PRECAUTIONS

7. Before every lesson, all guns, belts, ammunition boxes, drill cartridges and soldiers' pouches must be inspected to ensure that no live ammunition is present.

8. Whenever the top cover is raised, it is important that on closing it the action is cocked and the trigger pressed. This ensures that the actuating stud on the breech block is positioned correctly in the channel of the feed arm and is therefore not left under compression.

9. **Reserved.**

Fig. 1.—The General Purpose Machine Gun

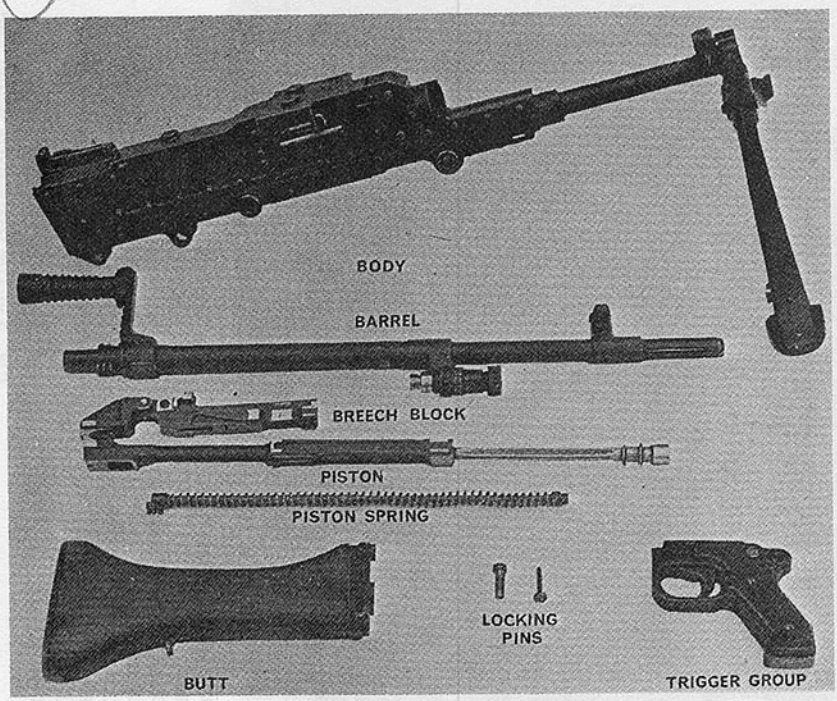
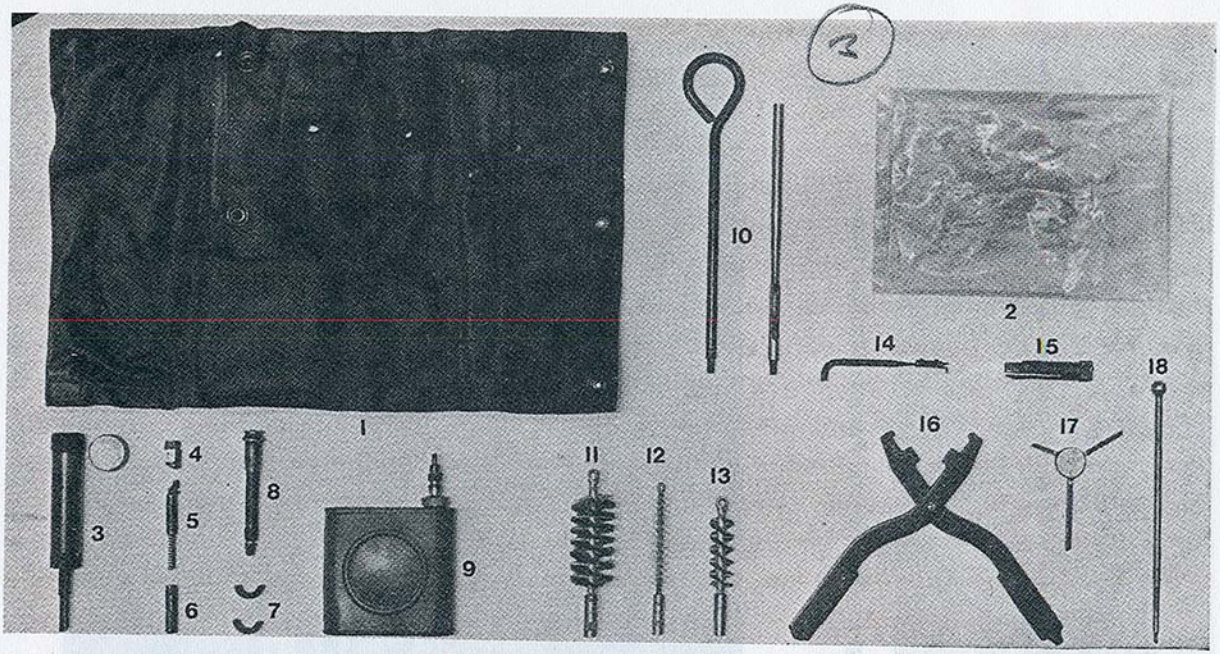



Fig. 2.—Parts of the gun




1. Spare parts wallet
2. Plastic bag
3. Gas regulator cleaning tool
4. Extractor
5. Extractor stay and spring
6. Link pin
7. Split collars
8. Clearing plug
9. Oil can
10. Cleaning rods
11. Cylinder brush
12. Bore brush
13. Chamber brush
14. Foresight and extractor tool
15. Mounting pin
16. Cylinder cleaning tool
17. Cleaner gas ports
18. Firing pin
19. Gas plug (SLR) (not illustrated)
20. Extractor (SLR) (not illustrated)
21. Extractor stay and spring (SLR) (not illustrated)
22. Pullthrough (not illustrated)

Fig. 3.—The spare parts wallet and contents

# CHAPTER 1

# THE BASIC SKILLS

## LESSON 1.—INTRODUCTION, STRIPPING AND ASSEMBLING

### A. INSTRUCTOR'S NOTES

10. **Aim.** *To describe the weapon, teach safety precautions and how to strip and assemble the gun.*

11. **Timings.** *Two 40 minute periods.*

12. **Method.** *A basic instructional period.*

13. **Stores:**

| | |
|---|---|
| *General Purpose Machine Guns (GPMG)* | *1 per three soldiers* |
| *Spare parts wallets, complete* | *1 per gun* |
| *Gun packing chest* | *1 per gun* |
| *Drill rounds, belted* | *20 per gun (minimum)* |
| *Drill rounds, loose* | *1 per gun* |
| *Ammunition boxes* | *1* |
| *Tables 1·8288 metres (six feet)* | *1 per gun* |

14. **Preparation:**

**a.** *Position a gun, spare parts wallet and extractor tool, removed from the wallet, on each table.*

**b.** *Carry out the following actions on the gun selected for demonstrations:*

(1) *Check and loosen the gas regulator.*

(2) *Check that the bipod leg retaining catch is secure and correctly positioned.*

(3) *Check that the trigger group locking pins and breech block link pin are easy to remove.*

15. **Miscellaneous:**

**a.** *Number the squad in groups of three and allocate one group per gun prior to normal safety precautions.*

**b.** *Place one drill round by each gun after normal safety precautions.*

**c.** *Use initial order for the commencement of each practice stage, i.e., "Normal safety precautions—No. 1s out" and thereafter call out "Change". Explain this system of control prior to the first practice stage.*

**d.** *Emphasize the drill for checking for an obstruction in the barrel during barrel assembly.*

**e.** *Ensure that as parts are stripped they are put in a clean place.*

**f.** *When handling the various parts, the instructor is to name them and their purpose. However, at this stage, the soldier is not expected to memorize all the names.*

**g.** *Emphasize that stripping and assembling should be carried out with reasonable care and never practised against time.*

## B. CONDUCT OF THE LESSON

### PRELIMINARIES

16. **Safety Precautions.** *Inspect all guns, belts, drill rounds and pouches.*

17. **Revision.** *Nil.*

### INTRODUCTION

18. *Explain.* The General Purpose Machine Gun (GPMG) is the main fire support of the Infantry section. A knowledge of the gun, its associated parts and safety procedures provide the soldier with the basics required to understand all that is taught to him regarding the gun. The soldier is tested in his ability to strip and assemble the gun as for daily cleaning.

### DESCRIPTION

19. *Explain and demonstrate:*

**a.** The 7·62 mm machine gun is designed for general purposes. It can be used either as a light machine gun fired from a bipod, or be fired from a tripod and used in the sustained fire role.

**b.** It is a fully automatic, belt fed, gas operated weapon, capable of a sustained high volume of fire in bursts. It is simple and sturdy in construction, easy to learn and fire. Stoppages are rare and can be easily and quickly remedied.

**c.** The weapon is air cooled.

**d.** The barrel is chromed internally to reduce wear.

**e.** The belts are of disintegrating links, factory filled, packed in 200 round belt boxes and belted one tracer and four ball.

**f.** The maximum range in the light role is 800 metres.

**g.** Flash is reduced to a minimum by means of a flash hider and a specially designed gas regulator.

**h.** The bipod legs can be folded and locked.

**j.** The trigger guard can be removed to allow the trigger to be operated under arctic conditions when arctic gloves are worn.

20. *Confirm by questions.*

### SAFETY PRECAUTIONS

21. *Explain and demonstrate:*

**a.** Open the top cover by pushing in the cover catches, cock the gun by pulling the cocking handle fully to the rear, lift the feed tray. Inspect the chamber and body to ensure they are clear, lower the feed tray and close the top cover. Hold the cocking handle, press the trigger and allow the working parts to go forward under control. Close the ejection opening cover unless stripping is to follow at once.

**b.** These actions are always to be carried out before the weapon is stripped.

22. *Confirm by practice.*

## STRIPPING AND ASSEMBLING THE BUTT AND RECOIL MECHANISM

23. *Explain and demonstrate:*

**a. To strip:**

(1) **The butt.** Test the gun to make certain the working parts are forward. Hold the pistol grip with the left hand, grip the butt with the right hand and with the forefinger of the right hand press up on the butt catch; lift the butt upwards until clear of the body.

(2) **Recoil mechanism.** With the thumb of the right hand push the rear of the return spring rod slightly forward and upward. This disengages the stud on the rod from the keyhole-shaped slot in the body and allows the return spring and rod to be withdrawn by pulling to the rear. To remove the piston and breech block place the left hand behind the gun body and with the right hand pull the cocking handle sharply to the rear. The piston and breech block will now protrude from the body and can be drawn clear. Push the cocking handle forward.

**b. To assemble:**

(1) **Recoil mechanism.** Check that the numbers on the breech block and body agree. Hold the pistol grip with the left hand, guide the piston into the lower part of the body. At the same time ensure that the breech block is held fully forward and up. Position the breech block into its guides in the upper part of the body, press the trigger and push the piston group fully forward. Insert the plain end of the return spring assembly and ensure that the stud on the rod is correctly engaged in the slot in the body of the gun.

(2) **Butt.** Lift the gun slightly, position the forward end of the butt into its guides in the body and press down until the catch is engaged. Test to ensure that the catch is fully engaged.

**c. To test:**

(1) Always, after assembly, test the gun for correct assembly by cocking it and pressing the trigger with the recoil mechanism under control.

(2) Close the ejection opening cover.

Note: To cock the gun correctly the cocking handle must be pulled fully to the rear and the handle returned to its forward position.

24. *Confirm by practice. Leave the recoil mechanism stripped.*

## STRIPPING AND ASSEMBLING THE BREECH BLOCK, EXTRACTOR AND SPRING

25. *Explain and demonstrate:*

**a. To strip:**

(1) **The breech block.** Push the breech block to its forward position on the piston. Using the nose of the drill round, push out the link pin and slide the breech block forward, clear of the firing pin. Lift out the firing pin from its seating.

(2) **The extractor and spring.** The tool for removing the extractor is carried in the spare parts wallet (*see* Fig 3).

(a) Hold the breech block with the extractor upwards; lift the locking lever until it is upright.

(b) Insert the thin end of the tool into the recess in the extractor plunger; position the other end into the slot in the locking lever (*see* Fig. 4. a.).

(c) Hold the tool down firmly with the thumb of the left hand and rotate the locking lever downwards, thus compressing the extractor spring (*see* Fig. 4. b.).

(d) Lift out the extractor and slowly ease the locking lever upwards until there is no tension on the extractor spring (*see* Figs. 4. c. and d.). Great care must be taken that the thumb does not slip from the tool or the extractor stay and spring may be lost. The extractor is to be removed only for cleaning after firing.

**b. To assemble:**

(1) **The extractor and spring.** Replace the extractor stay and spring. Insert the thin end of the tool removing extractor into the recess of the stay, lift up the locking lever and hook the other end of the tool as for stripping. Press the locking lever down to compress the extractor spring.

Insert the extractor into its seating, then raise the locking lever. Remove the tool, replace it in its container and pack away into the spare parts wallet.

(2) **Breech block.** Insert the head of the firing pin into its recess and slide the breech block on to the firing pin, lift the link and insert the link pin. Check that the head of the firing pin is correctly seated in its recess.

26. *Confirm by practice. Leave the gun assembled.*

## STRIPPING AND ASSEMBLING THE BARREL GROUP

27. *Explain and demonstrate:*

**a. To strip:**

(1) **The barrel.** Cock the gun to prevent damage to the face of the breech block. Keeping the gun upright, press the insulated thumb piece, raise the carrying handle to a vertical position, push the barrel forward and lift it off.

(2) **Gas regulator.** With the barrel removed from the gun unscrew the gas regulator anti-clockwise until free. Before removing it, put one hand under the regulator to prevent losing the split collars. (*The split collars are shown* in Fig. 5.) If these do not fall off when the regulator is removed, take them off and put them where they cannot be lost. Push the plug on the regulator seating to the rear and remove it. Under no circumstances will the gas regulator be stripped further except by an armourer.

**b. To assemble:**

(1) **The gas regulator.** Insert the plug into the regulator seating, ensuring that the flat surface is in line with its seating. Replace the split collars, fit the regulator from the front and screw fully home. Turn the regulator to the setting required for correct functioning; if this is not known, turn it anti-clockwise six clicks.

(2) **The barrel:**

(a) Check that the numbers on body and barrel agree and that there is no obstruction in the barrel.

(b) With the gas regulator downwards and the carrying handle upwards, put the barrel on to the barrel support located on the top of the bipod. Keeping the gun upright, draw the barrel to the rear and lower the carrying handle firmly.

(c) To raise the carrying handle for the purpose of carrying the gun, pull the handle out and up.

(d) When the barrel has been assembled, ease the working parts forward and close the ejection opening cover.

28. *Confirm by practice.*

## STRIPPING AND ASSEMBLING THE TRIGGER GROUP

29. *Explain and demonstrate:*

**a. To strip:** (*see* Fig. 6.)

(1) Remove the rear mounting pin, if fitted.

(2) With the working parts forward, remove the retaining pin from the rear of the trigger group by pushing out the centre pin from one side and the retaining pin from the other.

(3) Remove the trigger group by pivoting the group slightly downward.

Note: The trigger group is not to be removed from the gun except for cleaning after firing.

**b. To assemble:**

(1) Check that the safety catch is at 'F'.

(2) Insert the recess on the front of the pistol grip into its seating and holding it forward, lift the rear of the grip upwards. Replace the retaining pin and the centre pin.

30. *Confirm by practice.*

## PACKING

31. *Explain and demonstrate:*

**a.** Remove the butt, place it in the recess in the bottom of the chest and secure it by turning the two wooden pegs.

**b.** Remove the barrel from the gun and place it in the recess under the lid of the chest.

**c.** Fold the bipod legs and secure; ensure that the sights are folded flat; insert the bipod end of the gun into the small recess and the rear of the gun into the large recess.

**d.** Close the lid and secure.

**e.** Force is not to be used to close the lid of the chest.

32. *Confirm by practice.*

## CONCLUSION

**33. End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Confirm by questions and practice.*

**c.** *Normal safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *The importance of always carrying out safety precautions prior to stripping the gun.*

(2) *A forecast of the squad's next lesson in this subject.*

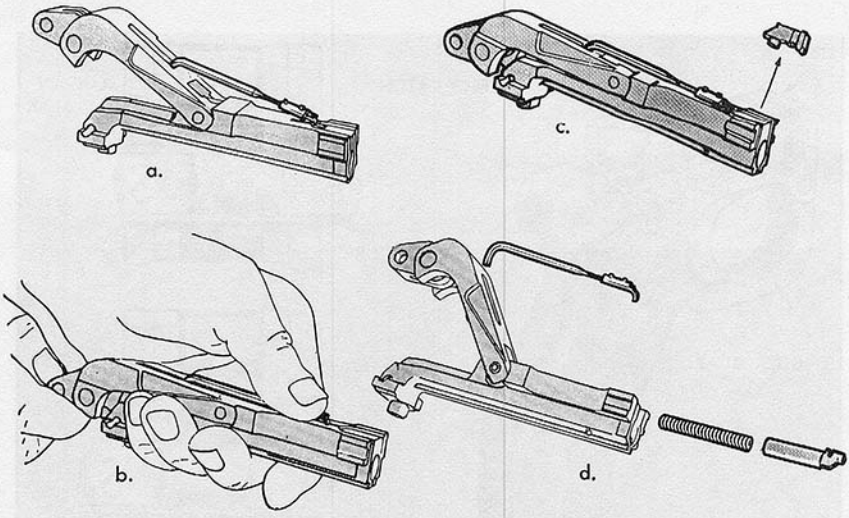



Fig. 4.—Stripping the extractor, stay and spring

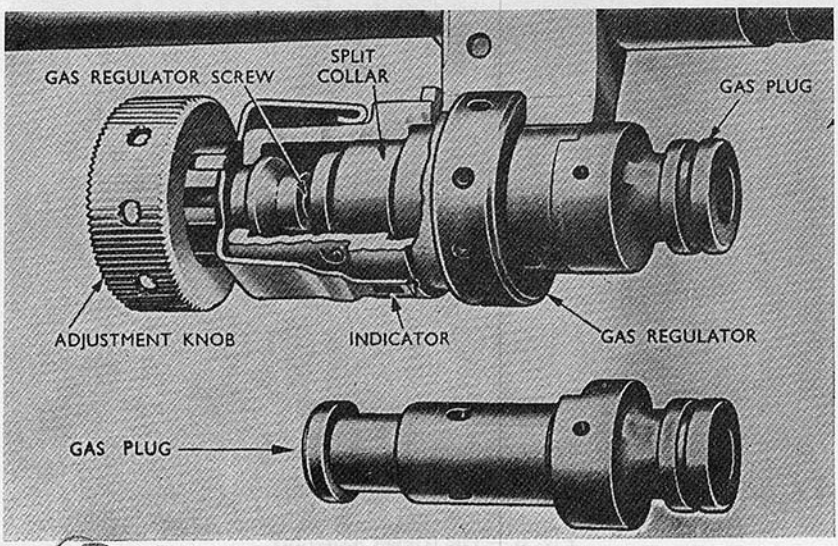



Fig. 5.—The gas regulator assembly

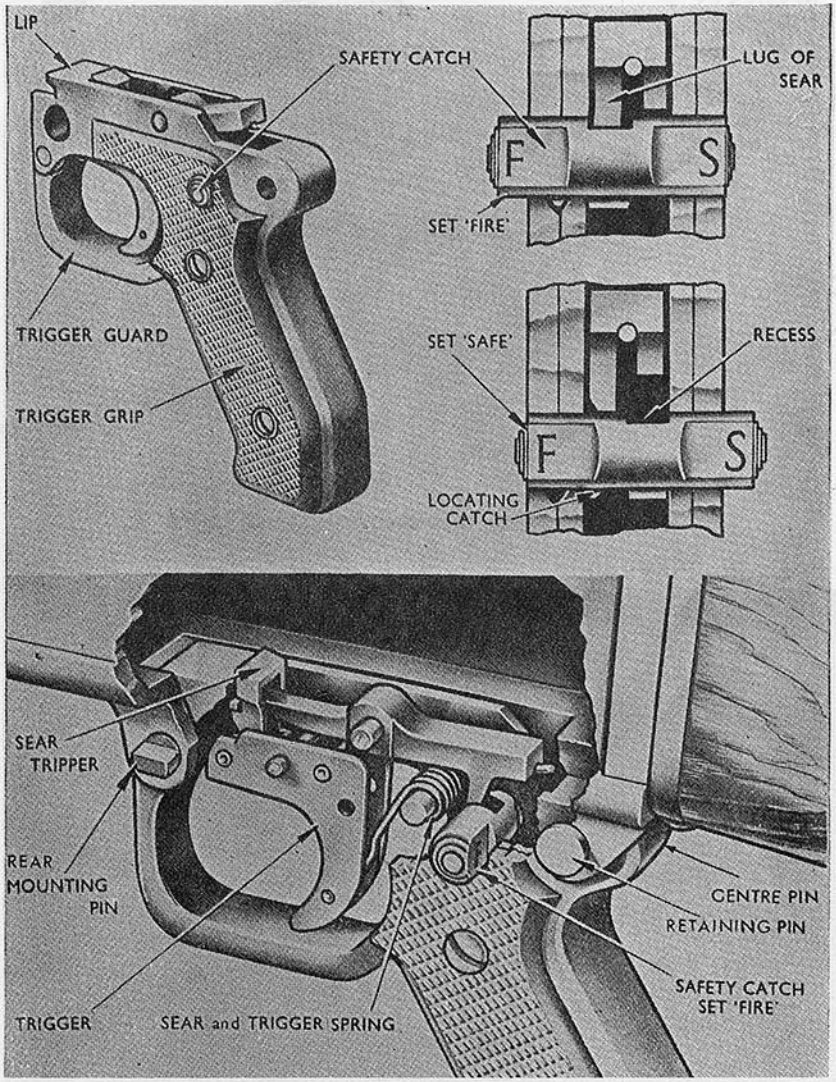



Fig. 6.—The trigger assembly

## LESSON 2.—DAILY CLEANING

### A. INSTRUCTOR'S NOTES

34. **Aim.** *To teach the contents of the spare parts wallet and how to clean the gun under both normal and adverse conditions.*

35. **Timings.** *Two 40 minute periods.*

36. **Method.** *A basic instructional period.*

37. **Stores:**

| | |
|---|---|
| *GPMGs* | *1 per 3 soldiers* |
| *Drill rounds, loose* | *1 per gun* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Tables* | *1 per gun* |
| *Flannelette:* | |
| *100 mm (4 inches) by 50 mm (2 inches)* | *1 piece per gun* |
| *100 mm (4 inches) by 38 mm (1½ inches)* | *1 piece per gun* |
| *100 mm (4 inches) by 150 mm (6 inches)* | *1 piece per gun* |
| *100 mm (4 inches) by 100 mm (4 inches)* | *1 piece per gun* |
| *Oil* | |
| *Cleaning rags/cotton waste* | |

38. **Preparation:**

**a.** *Check contents of each wallet.*

**b.** *Lay out one gun, spare parts wallet and drill round on each table.*

**c.** *Lay out one piece of each size flannelette by each gun.*

39. **Miscellaneous:**

**a.** *During the revision stage do not strip the extractor or the trigger group. Guns should be left stripped down ready for the next stage of the lesson.*

**b.** *When teaching cleaning in adverse conditions relate to the soldiers' knowledge of the SLR whenever possible to extract detail from them.*

### B. CONDUCT OF THE LESSON

**PRELIMINARIES**

40. Safety Precautions. *Normal.*

41. **Revision.** *Revise stripping and assembling. Leave guns stripped.*

**INTRODUCTION**

42. *Explain.* The GPMG is thoroughly reliable under extreme conditions of heat cold, rain and sand. It is important that the soldier knows how to maintain the gun, even in the most extreme conditions so that it does not let him down in battle.

## CLEANING MATERIALS AND SPARE PARTS

43. *Explain:* Each gun has a wallet containing the following items: (*see* Fig. 3.).

Oil can
Rod cleaning--two piece
Brush cleaning bore
Brush cleaning chamber
Brush cleaning cylinder
Cleaner gas ports
Clearing plug
Firing pin, spare
Tool adjusting foresight and removing extractor
Extractor, stay and spring, spare
Link pin, spare
Two split collars, spare
Tool cleaning, piston and cylinder
Tool cleaning gas regulator
Spare parts for SLR

44. *Confirm by questions.*

## DAILY CLEANING

45. *Explain and demonstrate:*

**a.** Assemble the chamber cleaning brush to the rod and clean out the chamber.

**b.** Clean the barrel, using the pullthrough fitted with a piece of flannelette size 100 mm (4 inches) by 50 mm (2 inches). The pullthrough should always be inserted from the chamber end of the barrel.

**c.** Inspect both the chamber and the barrel to ensure they are clean.

**d.** Oil the barrel using only normal issued oil and a piece of flannelette size 100 mm (4 inches) by 38 mm (1½ inches).

**e.** Clean and oil the flash hider.

**f.** Wrap a piece of flannelette size 100 mm (4 inches) by 150 mm (6 inches) around the cylinder brush, join the brush to the rod and clean out the cylinder from the front end. Inspect and oil using a piece of flannelette size 100 mm (4 inches) by 100 mm (4 inches) inserted in the rod eyelet.

**g.** Clean the rest of the gun with an oily rag.

**h.** Assemble the gun and test the recoil mechanism. To ensure correct functioning, the gas regulator is to be adjusted correctly so that the gun has sufficient gas to operate reliably but not so much that the gun vibrates unduly. If the gas setting is not known, turn the regulator anti-clockwise six clicks.

**j.** Clean and check all spare parts and cleaning tools; repack.

46. *Confirm by practice.*

## ADVERSE CONDITIONS

47. *Explain:*

**a.** In damp humid conditions clean the gun as taught for daily cleaning. However it must be inspected frequently for rust forming and all parts must be kept well oiled.

**b.** It is vital that under extreme dusty and sandy conditions the whole gun must be kept dry. The gun should be dried by sweating the parts in the sun, constantly wiping off the exuding oil. Cleaning brushes should be washed in soap and water and dried before use. Frequent inspection for rust is essential and if oil is used to remove rust, that part must be completely dried afterwards.

**c.** In arctic conditions, normal issued oil should be used sparingly.

**d.** For tropical temperature conditions a special oil is issued.

48. *Confirm by questions.*

## CONCLUSION

49. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Confirm by questions and practice.*

**c.** *Normal safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *The importance of maintaining the gun in a clean condition.*

(2) *The importance of correctly adjusting the gas regulator.*

(3) *A forecast of the squad's next lesson in this subject.*

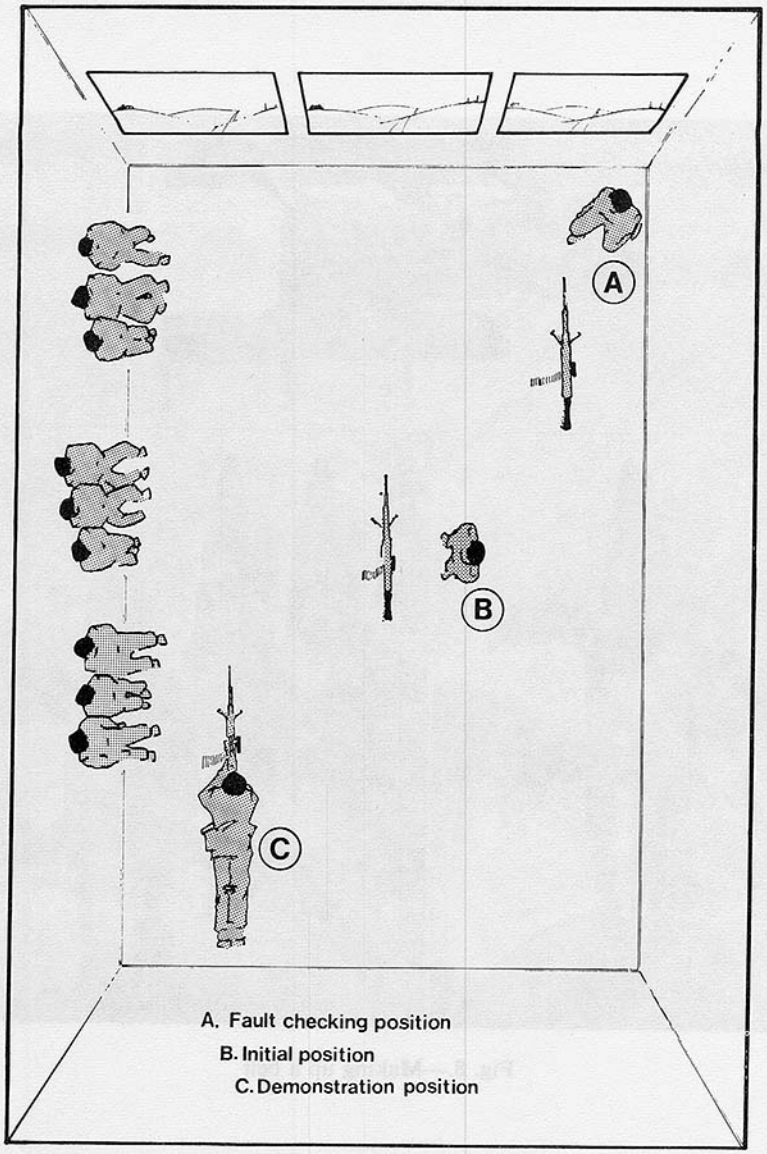



Fig. 7.—Layout of stores and weapons (common to most basic and practice periods)

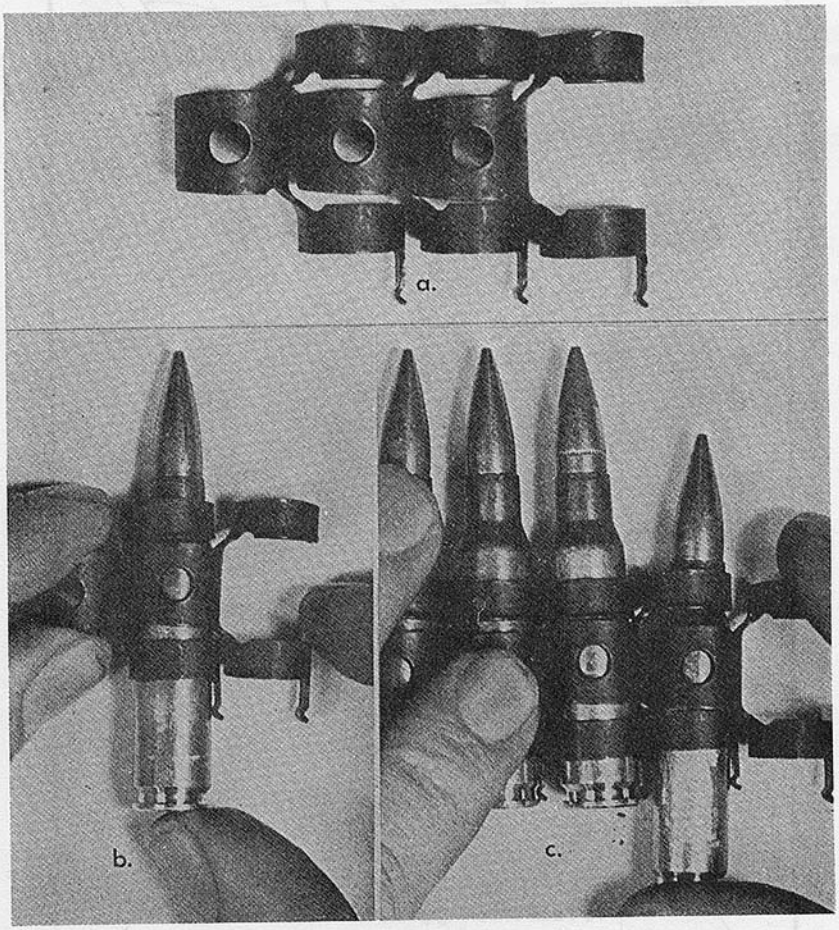



Fig. 8.—Making up a belt

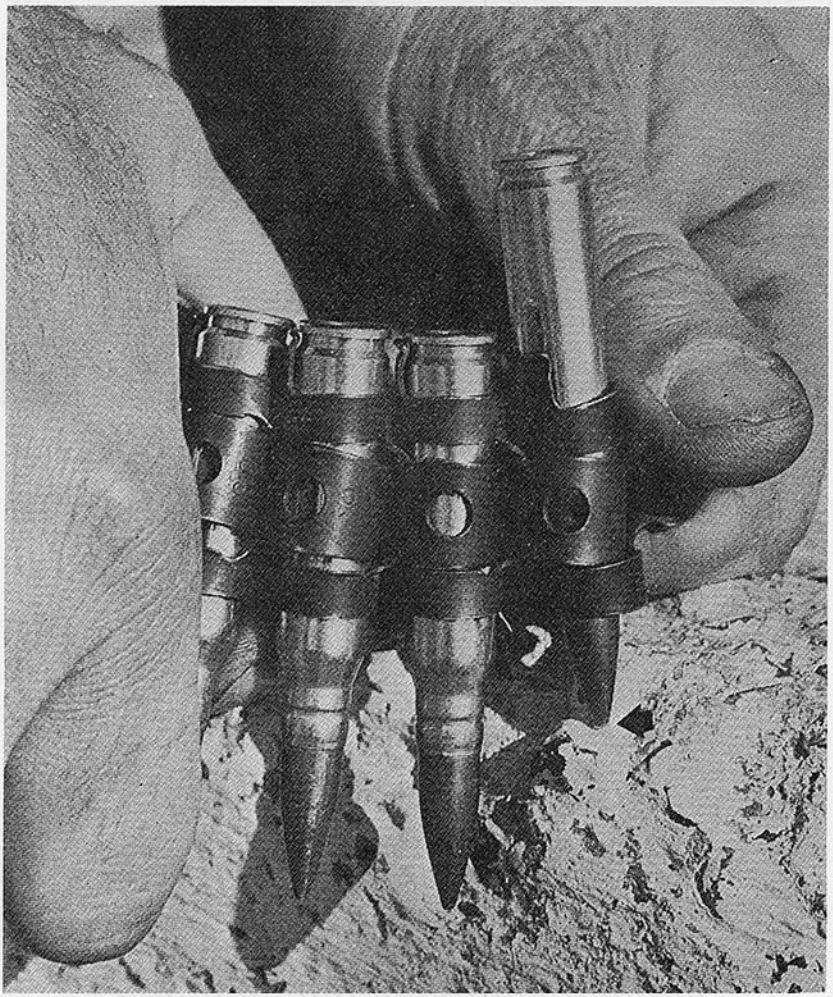


Fig. 9.—Breaking down a belt

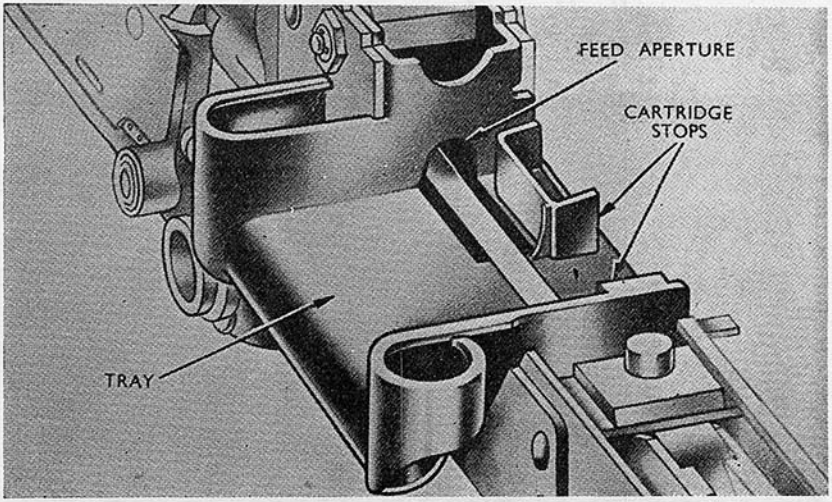



Fig. 10.—The feed tray

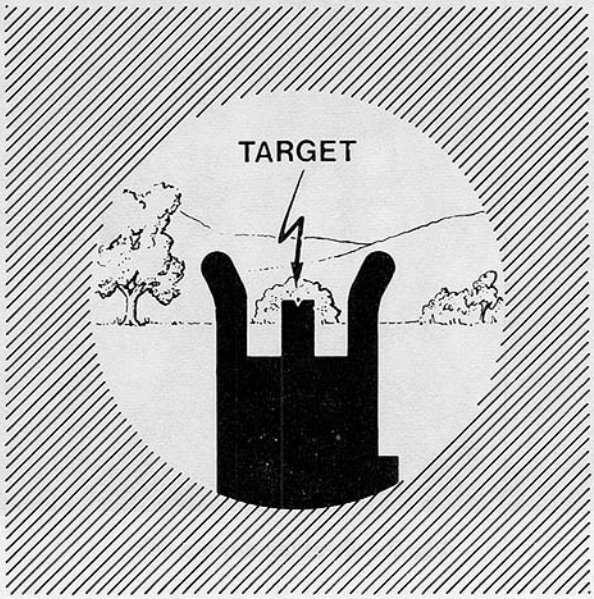



Fig. 11.—The aim picture

## LESSON 3.—LOADING, UNLOADING, SIGHTSETTING AND MAKING SAFE

### A. INSTRUCTOR'S NOTES

50. **Aim.** *To teach how:*

**a.** *To make up an ammunition belt.*

**b.** *To set the sights.*

**c.** *To load and unload the gun.*

**d.** *To make safe and to clear the gun individually or as a member of a two man team.*

51. **Timings.** *Two 40 minute periods.*

52. **Method.** *A basic instructional period.*

53. **Stores:**

| | |
|---|---|
| *GPMGs* | *1 per 3 soldiers* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Drill rounds, loose* | *10 per soldier + 5 for instructor* |
| *Links* | *10 per soldier + 5 for instructor* |
| *Landscape target* | *1 per gun* |

54. **Preparation:**

**a.** *Check drill rounds and links for damage.*

**b.** *Lay out guns and spare parts wallets (SPW) facing the landscape targets.* (*See Fig. 7.*)

**c.** *Lay out ten links and ten drill rounds for each soldier.*

**d.** *Lay out own links and five drill rounds in position selected for demonstration of making up a belt.*

55. **Miscellaneous:**

**a.** *Carry out all demonstrations on the gun farthest from the landscape target.*

**b.** *Number the squad in groups of three and allocate one group per gun prior to normal safety precautions.*

**c.** *During practice, control the teams by using numbers, i.e., "No. 2 out . . . change", etc.*

**d.** *Joining belts. Make soldiers link their belts together and lay them by the guns ready for loading.*

**e.** *At the end of the sightsetting demonstration, point out the cartridge stop to the soldiers in preparation for the loading demonstration.* (*See* Fig. 10.)

**f.** *Give a range before each practice of 'Make safe'.*

**g.** *When demonstrating two man teams, use a soldier from the squad to act as the No. 2.*

## B. CONDUCT OF THE LESSON

### PRELIMINARIES

56. **Safety Precautions.** *Normal.*

57. **Revision.** *Nil.*

### INTRODUCTION

58. *Explain.* It is essential that the soldier is capable of maintaining the gun in a state of readiness under battle conditions. A knowledge of actions he is to carry out on receiving commands helps to achieve this objective.

### AMMUNITION

59. *Explain and demonstrate where applicable:*

**a.** Drill belts, purely as a training expedient can be made up or broken down as follows:

(1) **To make up a belt.** Take two links, both the same way up, and place them so that the projection of one fits into the gaps of the other (*see* Fig. 8. a.). Then (*in the manner shown* in Fig. 8. b.), interlock them by inserting the nose of a round through both links and press the round forward till the projecting detent of the clip clicks into place, in the groove at the base of the round. Connect further links and rounds in the same way (*see* Fig. 8. c.).

(2) **To break down a belt.** Remove any round from the belt as required by pushing the nose of the round firmly against a solid surface (*see* Fig. 9.), thus releasing the round from the detent, so that it can be withdrawn. Do the same with any adjoining round and so on.

**b.** Live belts are already made up when issued and ARE NOT TO BE MADE UP FROM OLD LINKS AND LOOSE AMMUNITION except in battle and only then in an emergency.

**c. To join two belts.** Fit the projection of the end link of one belt into the gap of the end link of the other, making sure that the links are the same way up. If there is a round in position, press the projection so that it snaps into place over the cartridge case; if no round is in position, insert one as described in para 59. a. (1).

**d. To separate a belt.** Hold the rounds on each side of the point at which it is desired to separate the belt, and twist them in opposite directions. The links at that point will become disengaged.

60. *Confirm by practice.*

### SIGHTSETTING

61. *Explain and demonstrate:*

**a.** The backsight, when folded down, is used in the light role. It is marked in hundred graduations from 200 up to 800. The odd numbers are marked on the right side, even numbers on the left. To adjust the sights press in the catches on each side and move the slide along the leaf, the top of the slide being set at the range required. The sight should be set to 200 when not in use.

**b.** The foresight is similar to that on the SLR.

62. *Confirm by practice.*

## LOADING AND UNLOADING

63. *Explain and demonstrate:*

**a. Loading position.** On the command '*Load*', lie down, straight behind the gun, legs together and heels uppermost. Hold the small of the butt with the left hand in an overhand grip and the pistol grip with the right hand, the forefinger lying outside the trigger guard. This is known as the loading position (*see* Fig. 12.).

**b. Loading** (*see* Fig. 13.). Tilt the gun to the right and open the top cover. Take up the ammunition belt and check that the links are not loose or damaged. Position the belt on the feed tray with the links uppermost and the first round against the cartridge stop. Hold the belt in position with the left hand and close the top cover. Return the hands to the correct position on the butt and pistol grip and the gun to the upright position.

**c. Unloading.** On the command '*Unload*', raise the butt into the shoulder and cock the gun. Lower the butt, raise the top cover and remove the belt. Clear the feed tray of empty links (*see* Fig. 14.), close the top cover, raise the butt into the shoulder and, first ensuring that the safety catch is set at fire, align the sights roughly on the target, press the trigger. Lower the butt, close the ejection opening cover, lower the sights and stand up.

**d. Clearing the gun.** If the order '*Unload—Clear gun*' is given, the soldier is to unload as in para 63. c. then he is to raise the top cover to its upright position, stand up and in a clear voice report '*Gun clear*'.

64. *Confirm by practice leaving guns loaded.*

## ACTION ON THE RANGE BEING ORDERED AND MAKING SAFE

65. *Explain and demonstrate:*

**a.** When the range is ordered, set the sights, lift the butt into the shoulder and cock the gun. The right hand holds the pistol grip with the forefinger on the trigger; the left hand holds the small of the butt in an overhand grip.

**b.** It is often necessary to return a gun, which has been loaded and cocked, to a state in which it is loaded, but safe. The command used for this is *Make safe* and on receiving it the soldier is to:

(1) Unload as taught.
(2) Reload (with a new belt, if necessary).
(3) Return his hands to the butt and pistol grip.

66. *Confirm by practice. Leave guns loaded.*

## LOADING AND UNLOADING—TWO MAN GUN TEAM

67. *Explain and demonstrate:*

**a.** The gun can be handled and fired by the gunner alone, but there may be situations when he must be assisted in handling the gun by a No. 2, who may be either the gun controller or a rifleman from the section. The No. 2 is to lie on the left of the gun close to the gunner.

**b.** During the actions of loading when the gunner raises the top cover, the No. 2 is to position the belt on the feed tray, ensuring that his fingers are clear before the top cover is closed.

**c.** During the actions of unloading, the No. 2 is to remove the belt from the feed tray.

68. *Confirm by practice.*

## CONCLUSION

69. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Confirm by questions and practice.*

**c.** *Normal safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *The importance of checking the ammunition belt before loading.*

(2) *A forecast of the squad's next lesson in this subject.*

Fig. 12.—The loading position

Fig. 13.—Loading

Fig. 14—Clearing the feed tray.

Fig. 15.—Holding—Overhand grasp of the left hand

Fig. 16.—Holding—Underhand grasp of the left hand

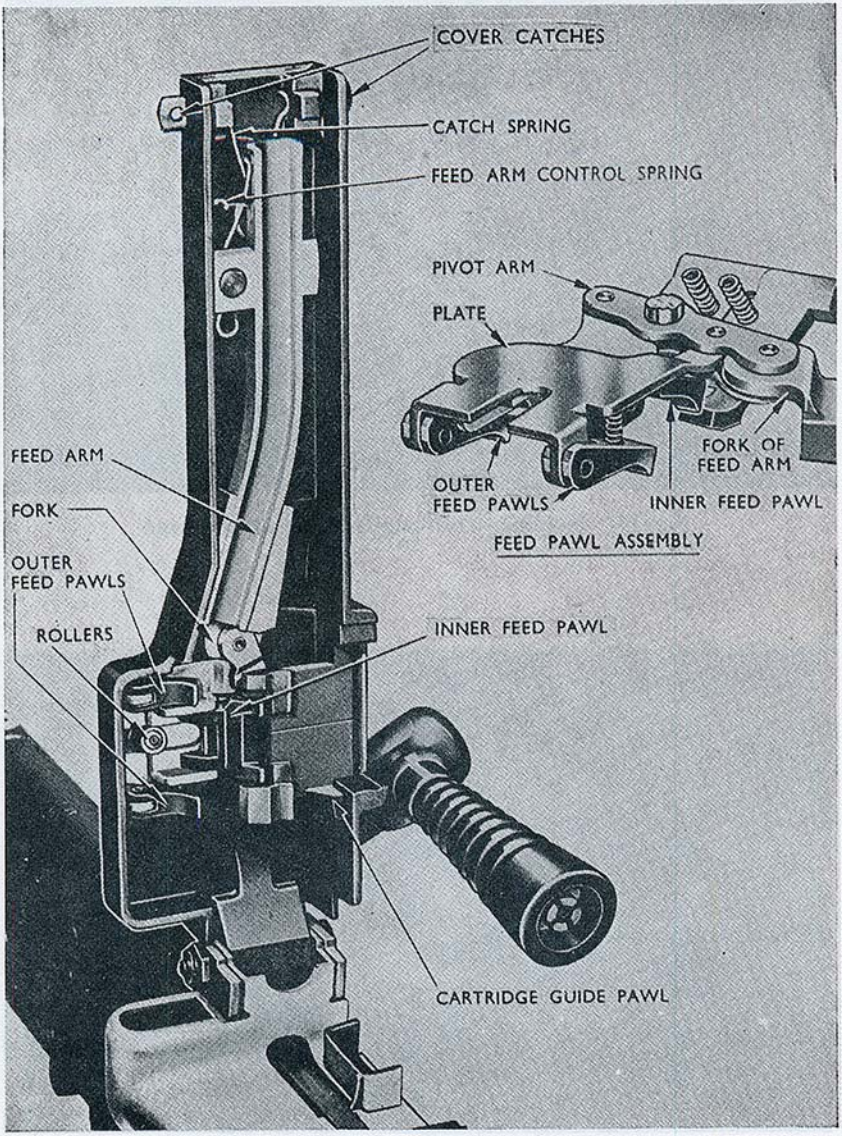



Fig. 17.—The feed pawls and springs

## LESSON 4.—HOLDING, AIMING AND FIRING

### A. INSTRUCTOR'S NOTES

70. **Aim:**

**a.** *To teach how to hold, aim and fire the gun at stationary and moving targets.*

**b.** *To teach rates of fire, lengths of bursts and the action to be carried out on receiving the commands 'Stop' and 'Go on'.*

71. **Timings.** *Two 40 minute periods.*

72. **Method.** *A basic instructional period.*

73. **Stores:**

| | |
|---|---|
| *GPMGs* | *1 per three soldiers* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Drill rounds, belted* | *15 per gun* |
| *Eye discs* | *1 per gun* |
| *Landscape target* | *1 (minimum requirement) but see para 74. c.* |

74. **Preparations:**

**a.** *Prepare arcs of fire and select reference points.*

**b.** *Lay out guns and belts.*

**c.** *Where possible use one identical landscape target per gun, positioned centrally in front of the gun's position.*

**d.** *Prepare fire control orders using different methods of indication. Check that all selected targets can be engaged from all gun positions.*

**e.** *Check the bipod leg adjusting nut on each gun.*

75. **Miscellaneous:**

**a.** *DRILL ROUNDS ARE NOT TO BE USED IN CONJUNCTION WITH EYE DISCS.*

**b.** *The squad should be numbered off in groups of three and one gun allocated to each group prior to normal safety precautions being carried out.*

**c.** *During practice, control the squad by using their numbers, i.e., No. 2 out . . . change, etc.*

**d.** *If the soldier suffers discomfort through pressing the mouth against the knuckles of the left hand gripping the small of the butt in a overhand grip then he should be encouraged to try an underhand grip.*

**e.** *Soldiers will understand more easily if it is explained that the firing drills learnt in firing a single shot with a rifle are applied, though the hold and follow through are extended to cater for the rounds in a burst.*

**f.** *Give practice as individuals and as teams.*

**g.** *During practice firing, order 'Stop—make safe' prior to changing gun numbers.*

## B. CONDUCT OF THE LESSON

### PRELIMINARIES

**76. Safety Precautions.** *Normal. Indicate arcs of fire and reference points.*

77. **Revision.** *Revise loading, action on a range being ordered and make safe. Leave guns loaded.*

### INTRODUCTION

78. *Explain.* In order to bring effective fire down on to the enemy, the soldier must know how to hold, aim and fire the gun using the best length of burst against both stationary and moving targets.

### HOLDING AND AIMING (*see* Fig. 15. and 16.)

79. *Explain and demonstrate:*

**a.** When a range is ordered, act as already taught.

**b.** Aiming is as for the rifle. (*see* Fig. 11.)

**c.** When a target is indicated, use the left hand under the gun to move it as necessary and line up the gun, body and target. Open the legs and lay the heels flat on the ground.

**d.** Slight adjustments for height can be made by moving the elbows inwards or outwards until the position is correct. Large adjustments are made by rotating the nut between the bipod legs.

**e.** Move the whole of the body up to the gun until the right shoulder is firmly in contact with the butt.

**f.** Pull the butt backwards and downwards with an overhand or underhand grasp of the left hand, the left elbow being as far forward as possible with comfort.

**g.** Hold the pistol grip firmly with the right hand, forefinger on the trigger, and pull the gun backwards and upwards into the shoulder.

**h.** Lock the hold by turning the wrists inwards and rest the cheek on the left hand if using the overhand grip or on the small of the butt if using the underhand grip.

**j.** Test the hold by rocking backwards and forward slightly; the foresight should move directly up and down on the point of aim.

80. *Confirm by practice. Order 'Make safe'.*

### FIRING

81. *Explain and demonstrate:*

**a.** On the command *Fire*, when the hold and aim are correct, the trigger should be pressed long enough to fire a burst of two or three rounds and then should be fully released to allow it to go forward.

**b.** Observation of the burst is most important. The moment the trigger is released the left eye should be opened and the area of the target observed to ascertain the strike of the shots.

**c.** Any necessary alterations to the sights or aim should be made and then continue firing at the normal rate of about 25 rounds per minute. If *Rapid fire* is ordered, increase the rate to about 100 rounds per minute.

**d.** On the order *Stop*, cock the gun, put the safety catch to safe with the left hand and then lower the butt. If the belt has only a few rounds left, connect another belt to it.

**e.** On the order *Go on*, re-align onto the target, test the hold, and continue firing.

**f.** On the order *Stop—Make safe*, act as already taught.

**g.** If a No. 2 is present it is his task to see that there is always a supply of ammunition for the gun. This he is to do by clipping on further belts as necessary It is not necessary for the No. 2 to hold the belt during firing, but he may be required to straighten the belt to assist correct feed.

82. *Confirm by practice.*

## LENGTH OF BURSTS AND RATE OF FIRE

83. *Explain:*

**a.** A burst of three to five rounds is necessary at longer ranges to observe the strike of shots and to correct errors in range and wind allowance. Tracer is filled one in four in each belt. This is to assist in observation of strike. However, the length of burst will be determined by the type of target, the range to the target and the skill of the soldier.

**b.** A burst of eight to ten rounds spreads more but gives a better chance of hitting a moving target and may be necessary at very short ranges against a mass attack.

**c.** The longer burst can also be extremely effective when firing at the front of an AFV particularly if aimed at devices which assist crew vision, such as periscopes, lights or infra-red equipment.

**d.** Rapid fire is the fastest rate at which the soldier can maintain his accuracy and is only to be used when the target warrants it, i.e., a large number of enemy in the open at a short range, or it may be used for short periods when providing covering fire for an attack by our own troops.

**e.** Normal rates of fire will not overheat the barrel, but rapid rates and long bursts for any length of time will. The soldier must use his common sense and regulate his rate of fire and length of bursts to the tactical situation, remembering that overheating quickly wears out the barrel and affects its accuracy.

**f.** If possible, during a lull in firing the gun should be unloaded, the action cocked and the top cover raised so that the gun may cool down after sustained rapid fire.

g. In training, the maximum permissible rate of fire is 100 rounds per minute. This rate is never to be exceeded, since any faster rate of fire is likely to cause overheating of the barrel and apart from the effects already discussed could lead to the occurrence of dangerous stoppages and a waste of ammunition. No gun is to fire more than 400 rounds continuously through the same barrel. This is to avoid overheating and consequent dangerous stoppages. Barrels are to be changed after every 400 rounds and not used again until hand cool.

84. *Confirm by questions.*

## MOVING TARGETS

85. *Explain.* Select a point of aim well in front of the line of advance of the moving target. Aim at it and when the target is two widths from that point of aim fire a long burst of eight to ten rounds. The most likely targets are soft-skinned vehicles and unbattened AFVs.

86. *Confirm by practice.*

## CONCLUSION

87. **End of Lesson Drill.**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Confirm by questions and practice.*

**c.** *Normal safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *The importance of testing the hold before firing a burst.*

(2) *A forecast of the squad's next lesson in this subject.*

## LESSON 5.—IMMEDIATE ACTION AND GAS STOPPAGE DRILL

### A. INSTRUCTOR'S NOTES

88. **Aim.** *To teach how the gun works, the immediate action to be carried out if it stops firing and the gas stoppage drill.*

89. **Timings.** *Two 40 minute periods.*

90. **Method.** *A basic instructional period.*

91. **Stores:**

| | |
|---|---|
| *GPMGs* | *1 per three soldiers* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Drill rounds, belted* | *15 per gun* |
| *Landscape target* | *1 (minimum requirement) but see para 92. c.* |

92. **Preparation:**

**a.** *Prepare arcs of fire and select reference points.*

**b.** *Lay out guns and drill belts.*

**c.** *Where possible use one identical landscape target per gun, positioned centrally in front of the gun's position.*

**d.** *Prepare fire control orders on to selected targets and check that targets can be engaged from each gun position.*

93. **Miscellaneous:**

**a.** *Number the squad in groups of three and allocate one group per gun prior to normal safety precautions.*

**b.** *During practice, control the squad by using their numbers, i.e., No. 2 out . . . change, etc.*

**c.** *Give practice also in two man gun teams.*

**d.** *Emphasize after any stoppage, that the gun must be held firmly and re-aligned on to the target before pressing the trigger.*

**e.** *Adjust gas regulators frequently to cater for gas stoppage drill.*

**f.** *Before changing teams for practice on the guns, order 'Stop'.*

### B. CONDUCT OF THE LESSON

**PRELIMINARIES**

94. **Safety Precautions.** *Normal. Indicate arc of fire and reference points.*

95. **Revision.** *Revise firing drill. Leave guns loaded.*

## INTRODUCTION

96. *Explain.* If the gun is correctly cleaned and prepared for firing, stoppages will seldom occur. However, should the gun stop firing it is important that the soldier knows how to remedy it with a minimum loss of time. A knowledge of how the gun works will assist in quick understanding of the reason behind the stoppage.

## HOW THE GUN WORKS

97. *Explain.* The gun is loaded by hand and cocked. When the round is fired the gases drive the piston group to the rear, ejecting the empty case. The return spring and buffer drive the piston forward, loading a fresh round, which is then fired. This action goes on as long as the trigger is kept pressed and there are rounds in the belt.

98. *Confirm by questions.*

## IMMEDIATE ACTION (IA)

99. *Explain and demonstrate.* If the gun stops or fails to fire:

**a.** Cock the gun.

**b.** Lower the butt.

**c.** Open the top cover, clear the feed tray and close the top cover again as quickly as possible.

**d.** Raise the butt into the shoulder and align the sights on to the target; press the trigger.

**e.** Lower the butt, reload, raise the butt into the shoulder and cock the gun; re-align on to the target again and continue firing.

100. *Confirm by practice.*

## STOPPAGES REMEDIED BY APPLYING IA

101. *Explain.* The following causes of stoppages will be remedied by applying the IA:

**a.** Expended belt.

**b.** Damaged rounds.

**c.** Live round partly fed, due to a damaged link.

**d.** Misfired round.

**e.** Hard extraction.

**f.** Damaged link.

102. *Confirm by questions.*

## GUN CANNOT BE COCKED

103. *Explain and demonstrate:*

**a.** On attempting to carry out the IA, if the cocking handle cannot be pulled fully to the rear, hold it as far back as possible and lower the butt.

**b.** Open the top cover, clear the feed tray, close the top cover and complete the cocking action.

**c.** Complete the IA as normal.

**d.** The gun could not be cocked due to a damaged link jamming the feed pawls.

104. *Confirm by practice.* (*The squad are to assume that the gun won't fully cock.*)

## GAS STOPPAGE DRILL

105. *Explain and demonstrate.* If, after applying the immediate action, the gun fires a few rounds and again stops, the soldier is to:

**a.** Cock the gun.

**b.** Put the safety catch to 'Safe'.

**c.** Lower the butt.

**d.** Adjust for more gas by three clicks. If the regulator is hot, use the nose of a round taken from the belt.

**e.** Put the safety catch to 'Fire' and continue firing as taught.

**f.** Any round, whether damaged or not, which is involved in a stoppage or used as a tool is to be removed from use. Such rounds are not to be replaced in a belt, nor is any attempt to be made to fire them.

106. *Confirm by practice.*

## FURTHER ACTION

107. *Explain.* If, after carrying out the gas stoppage drill, the stoppage recurs, then the rate of fire and cleanliness of the gun are to be considered:

**a.** If the cyclic rate of fire is too low, repeat the gas stoppage drill.

**b.** If the cyclic rate of fire is too high, reduce the amount of gas by adjusting the gas regulator by three clicks.

**c.** Repeat the drill for either case until the gun functions satisfactorily.

**d.** If the stoppage cannot be remedied by these drills, unload, clean and lubricate the working parts, reload and carry on firing.

108. *Confirm by questions and practice.*

## CONCLUSION

109. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Confirm by questions and practice.*

**c.** *Normal safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *The importance of correct firing drills after clearing a stoppage.*

(2) *A forecast of the squad's next lesson in this subject.*

## LESSON 6.—OTHER STOPPAGES

### A. INSTRUCTOR'S NOTES

110. **Aim.** *To teach the soldier the causes of stoppages and how to cure them.*

111. **Timings.** *Two 40 minute periods.*

112. **Method.** *A basic instructional period.*

113. **Stores:**

| | |
|---|---|
| *GPMGs* | *1 per three soldiers* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Drill rounds, belted* | *15 per gun* |
| *Landscape target* | *1 (minimum requirement) but see para 114. c.* |

114. **Preparation:**

**a.** *Prepare arcs of fire and select reference points.*

**b.** *Lay out guns and drill belts.*

**c.** *Where possible use one identical landscape target per gun, positioned centrally in front of the gun position.*

**d.** *Prepare fire control orders on to selected targets and check that targets can be engaged from each gun position.*

115. **Miscellaneous:**

**a.** *Number the squad in groups of three and allocate one group per gun prior to normal safety precautions.*

**b.** *During practice, control the squad by using their numbers, i.e., No. 2 out . . . change, etc.*

**c.** *Give practice also in two man gun teams.*

**d.** *Only a qualified armourer is allowed to manufacture a separated case, subject to existing EMERs and unit permission to use the cartridge case of an expired round.*

### B. CONDUCT OF THE LESSON

**PRELIMINARIES**

116. **Safety Precautions.** *Normal. Indicate arcs of fire and reference points.*

117. **Revision.** *Revise IA. Leave the guns loaded.*

**INTRODUCTION**

118. *Explain.* Although stoppages caused by broken parts or obstructions are rare, the soldier must be able to recognise and remedy such causes quickly in order to get the gun firing again.

## OBSTRUCTION IN THE BODY; EMPTY CASE IN THE CHAMBER

119. *Explain and demonstrate.* If after applying the immediate action, the gun will not fire:

**a.** Unload.

**b.** Cock the gun, open the top cover, raise the feed tray and inspect the interior for an obstruction in the body or chamber. If there is:

(1) An obstruction in the body. Remove it by using a tool from the spare parts wallet. Close the top cover, place the butt in the shoulder and operate the trigger (a round may be fired). After ensuring that the working parts are forward, reload, cock the gun and continue firing.

(2) An empty case in the chamber (caused by a broken extractor or spring). Operate the trigger, remove the recoil mechanism and change the broken part, re-assemble, extract the empty case and leave the working parts forward. Load, cock the gun and continue firing.

120. *Confirm by practice. Leave guns made safe.*

## BROKEN PARTS, OBSTRUCTION IN THE BARREL, SEPARATED CASE

121. *Explain and demonstrate:*

**a.** If, on inspection, no obstruction is found in the body or chamber:

(1) Allow the working parts to go forward, strip the gun as necessary and inspect the following for weak or broken parts; the return spring, the firing pin, the ejector and spring.

(2) Replace any defective part, assemble the gun, load, cock the gun and continue firing.

**b.** If, on inspection there appear to be no weak or broken parts, remove the barrel and inspect it for an obstruction or a separated case in the chamber. If there is:

(1) An obstruction. The barrel is **not** to be used until the obstruction has been removed.

(2) A separated case. Assemble the gun, cock it and place the clearing plug into the chamber. Operate the trigger, cock the gun and check that the separated case is on the extracted clearing plug. Operate the trigger and cock the gun, load and continue firing.

122. *Confirm by practice. Leave guns made safe.*

## FEED PAWL AND SPRINGS (*see* Fig. 17.)

123. *Explain and demonstrate.* After applying the immediate action, if the gun will not fire and you cannot fully cock the gun, act as previously taught but before reloading open the top cover and examine the feed pawls and springs. If the feed pawls are not working freely, clean and oil them. Load, cock the gun and continue firing.

124. *Confirm by practice. (Squad to assume gun won't cock.) Leave guns made safe.*

## RUNAWAY GUN

125. *Explain and demonstrate.* A mechanical fault may cause the gun to fire after the trigger has been released. If this happens:

**a.** Hold the gun firmly in the shoulder.

**b.** Twist the belt at the point of entry into the feedway, thus breaking the belt or jamming the feed.

**c.** When the gun stops, clear the gun, reload, adjust for more gas, cock the gun and carry on firing.

126. *Confirm by practice. Leave guns made safe.*

## CONCLUSION

127. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Confirm by questions and practice.*

**c.** *Normal safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(*1*) *The importance of correct firing drills after clearing a stoppage.*

(*2*) *A forecast of the squad's next lesson in this subject.*

Fig. 18.—Firing from low cover using the bipod legs

Fig. 19.—Firing from low cover bipod legs folded

Fig. 20.—Firing from the side of sloping ground

Fig. 21.—Firing round cover

## LESSON 7.—HANDLING

### A. INSTRUCTOR'S NOTES

128. **Aim.** *To teach the individual responsibilities of members of the gun team in handling the gun.*

129. **Timings.** *Two 40 minute periods.*

130. **Method.** *A basic instructional outdoor period.*

131. **Stores:**

| | |
|---|---|
| *GPMGs fitted with slings* | *1 per three soldiers* |
| *Spare parts wallet, complete* | *1 per gun* |
| *SLRs fitted with slings* | *2 per three soldiers* |
| *Magazines* | *2 per SLR* |
| *Drill rounds, belted* | *2 × 15 round belts per gun* |

132. **Preparation:**

**a.** *Reconnoitre the training area and select locations for demonstrations and for squad practice of:*

(1) *Good fire position.*
(2) *The actions on the command 'Take cover'.*

**b.** *Plan arcs of fire for squad practice of good fire positions.*

133. **Miscellaneous:**

**a.** *Number the squad in groups of three and allocate one group per gun prior to normal safety precautions.*

**b.** *The qualities of a good fire position as taught for the SLR are:*

(1) *Free use of personal weapons and grenades.*
(2) *Cover from HE and small arms fire.*
(3) *Cover from view.*
(4) *An unobstructed view of a wide arc of fire.*
(5) *No dead ground close to the position by day or at night.*

**c.** *For practice of fire positions, give out arcs of fire and let all gun teams occupy their positions. Leave one team in position and have the remainder of the squad criticize. Do this with each team in turn.*

**d.** *The gun should be carried with the sling over the right shoulder as this allows the gun to be brought more quickly into a ground firing position.*

**e.** *When demonstrating the battle drill of the three man gun team show the actions of the gun controller first and then the gunner. Detail one of the soldiers to act as the No. 2.*

### B. CONDUCT OF THE LESSON

**PRELIMINARIES**

134. **Safety Precautions.** *Normal for GPMGs and SLRs.*

135. **Revision.** *Nil.*

## INTRODUCTION

136. *Explain.* The success of any action carried out by the infantry section is determined to a large degree by the effective fire support it obtains from its gun team. To give good fire support the gun team should be in a good fire position and be capable of carrying out instinctively the orders given to them.

## THE GUN TEAM

137. *Explain.* The normal gun team is to consist of three men, the gun controller, the gunner and the No. 2. Individual responsibilities are:

**a. Gun controller:**

(1) To control the fire of the gun on to the targets as directed by the section commander.

(2) To act as the link man with the section and watch for any signals from the section commander.

(3) To observe and correct the gunner's fire.

(4) To select fire positions for the gun and its line of advance when on the move.

(5) To fire his rifle in an emergency.

**b. Gunner.** To handle and fire the gun as ordered by the gun controller.

**c. No. 2:**

(1) To assist the gunner as and when required.

(2) To ensure an adequate supply of ammunition to the gun.

(3) To fire his rifle in an emergency.

138. *Confirm by questions.*

139. *Explain and demonstrate:*

**a.** When preparing belts for carriage, the 200 round belts should be broken into lengths of 50 rounds.

**b.** Belts are to be carried in pouches.

**c.** In battle, the gun controller and gunner are each to carry four lengths of 50 rounds; the No. 2 is to carry three lengths of 50 rounds.

**d.** Each member of the rifle group carries one length of 50 rounds.

**e.** Short strips of belt are to be linked together and any remaining over and above the section load are to be repacked in belt boxes.

140. *Confirm by practice.*

## FIRE POSITION (*see* Figs. 18, 19, 20 and 21.)

141. *Question the squad on the qualities of a good fire position as taught for the SLR (see paragraph 133.).*

142. *Explain and demonstrate.* In addition to the qualities of a good position as already taught for the SLR there are special points to note about the GPMG fire position, these are:

**a.** The No. 2 should always be on the left of the gun in order to change the belts quickly.

**b.** It is sometimes necessary to fold the bipod legs in order to make the best use of cover. The gun is then rested as near as possible to where the legs are joined to the gun.

**c.** Always ensure that the ejection opening cover is clear to allow the empty cases to be ejected.

**d.** If the ground is sloping, the sights can be kept upright by rotating the gun in the bipod sleeve.

**e.** Always ensure that there is adequate crest clearance for firing.

143. *Confirm by practice.*

## BATTLE DRILL FOR THE THREE MAN GUN TEAM

144. *Explain and demonstrate.* The gunner in the advance carries the gun either by using the carrying handle (*see* Fig. 22.), or in front of the body supported by the sling over the right shoulder and holding the gun muzzle down and forward, right hand on the pistol grip and left hand under the folded bipod legs (*see* Fig. 23.).

145. On being ordered to '*Take Cover*':

**a.** The gun controller is to get down behind the nearest cover and move cautiously into a position from which he can observe the front without being seen. He is to select a likely gun position and indicate it to the gunner. When the gun is in position, the gun controller directs its fire.

**b.** The gunner is to get down behind the nearest cover, watch the gun controller and, when his fire position is indicated, crawl to it and get into a position of observation keeping the gun behind cover. If he cannot observe the enemy from this position, he is to inform the gun controller and move to a more suitable position close by.

(1) When a range is ordered, the gunner is to set the sights, mount the gun and cock it. He is to fire as ordered.

(2) On the command '*Stop*', he acts as taught but the butt should be kept in the shoulder.

(3) On the command '*Go on*' he acts as taught.

(4) On the command '*Prepare to move*', if a long bound is to be covered, the gunner is to '*Make safe*', fold the loaded belt over the gun so that it balances easily, raise the carrying handle and check that spare belts are put into pouches. For a short move, it is sufficient to cock the gun and put the safety catch to 'Safe' in lieu of '*Make safe*'.

(5) On the command '*Move*', the gunner is to avoid breaking cover from the position from which he has been firing. On arrival at the new position, he is to remove the belt from the top of the gun, align it ready for firing and lower the carrying handle.

**c.** The No. 2 is to conform to the actions of the gunner.

146. *Confirm by practice.*

## BATTLE DRILL FOR THE TWO MAN GUN TEAM

147. *Explain.* On any occasion when the gun team is reduced to two men, the gunner is to carry out his duties as taught and the No. 2 is to perform the duties of the gun controller in addition to his own.

148. *Confirm by practice.*

## CONCLUSION

149. **End of Lesson Drill.**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Confirm by questions and practice.*

**c.** *Normal safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *The importance of breaking cover from a position different from that used when firing.*

(2) *A forecast of the squad's next lesson in this subject.*

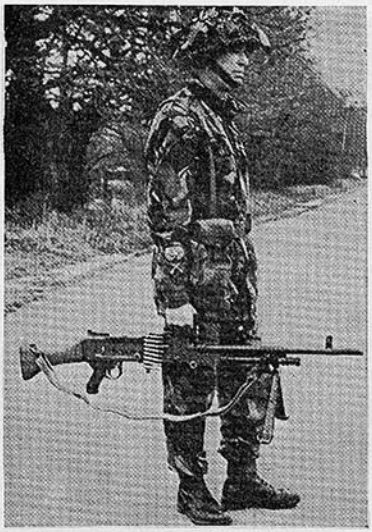


Fig. 22.—Carrying the gun

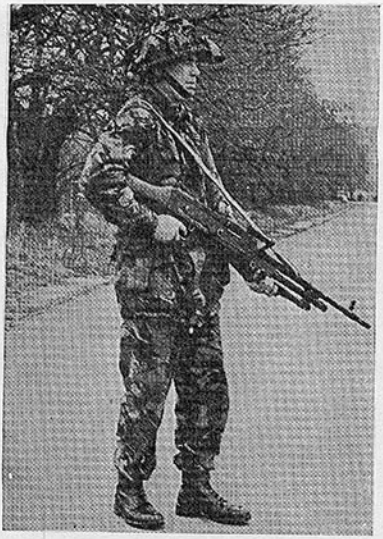


Fig. 23.—Carrying the gun

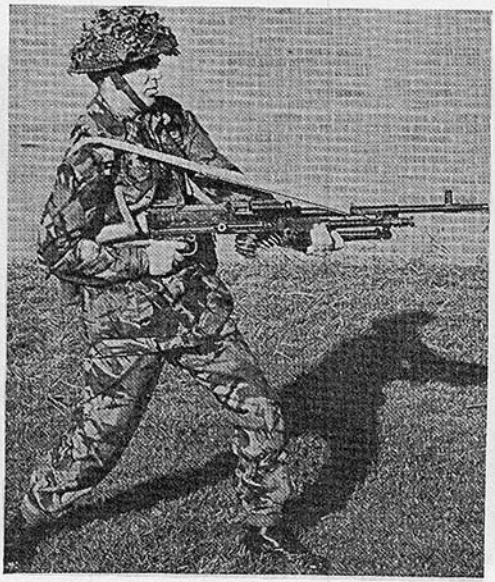


Fig. 24.—The CQB position

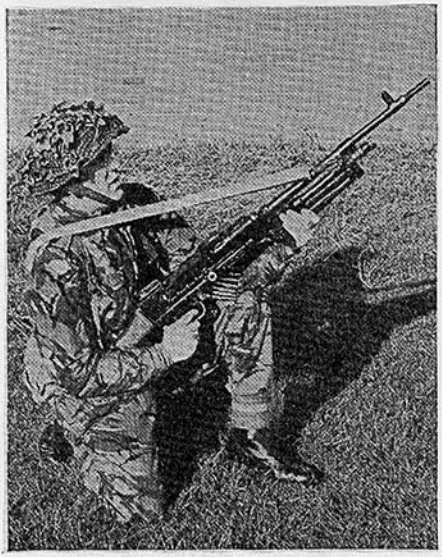


Fig. 25.—The AA position—kneeling

Fig. 26.—The AA position—standing

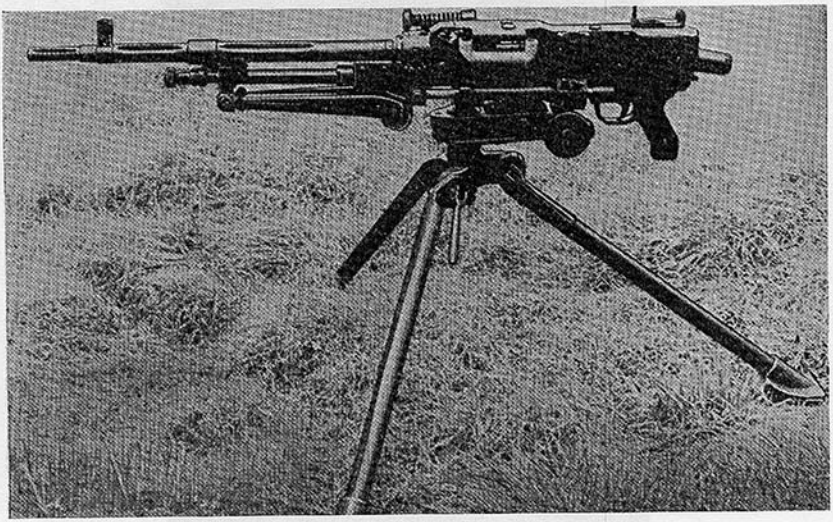


Fig. 27.—The gun and tripod in the high mount position

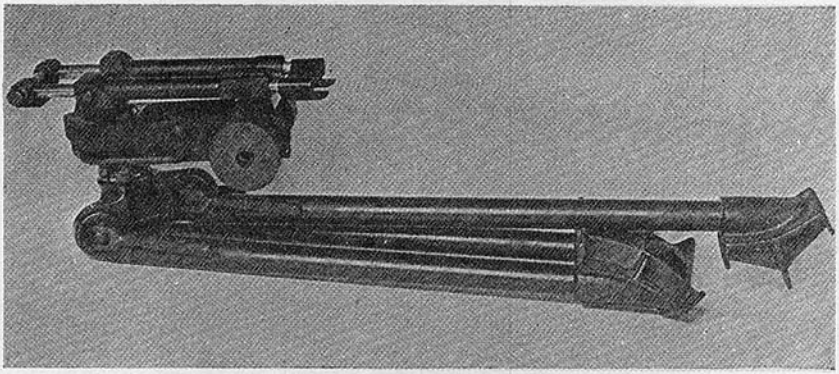


Fig. 28.—The tripod—dismounted

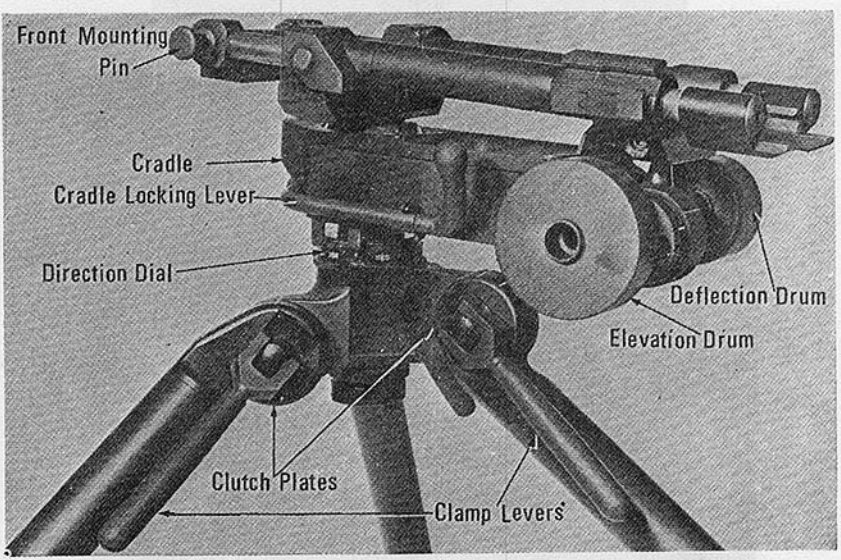



Fig. 29.—The tripod—bracket and cradle

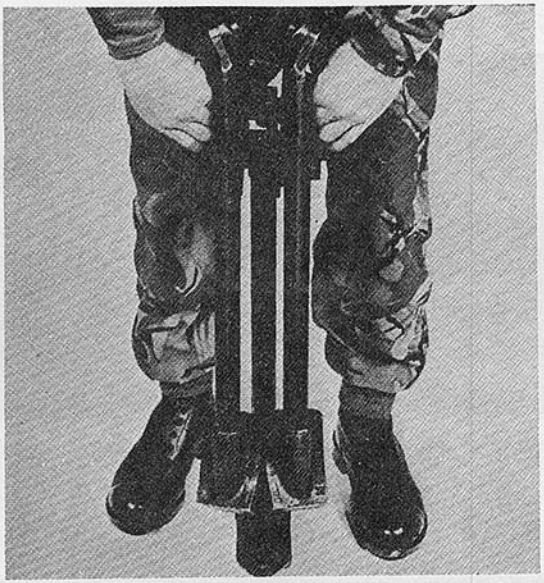


Fig. 30.—Mounting the tripod—a.

Fig. 31.—Mounting the tripod—b.

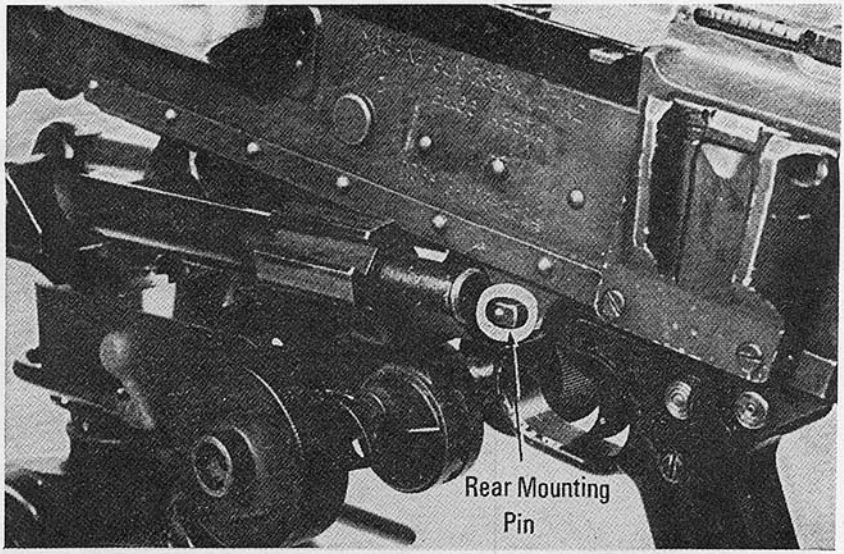



Fig. 32.—Correct position of the rear mounting pin

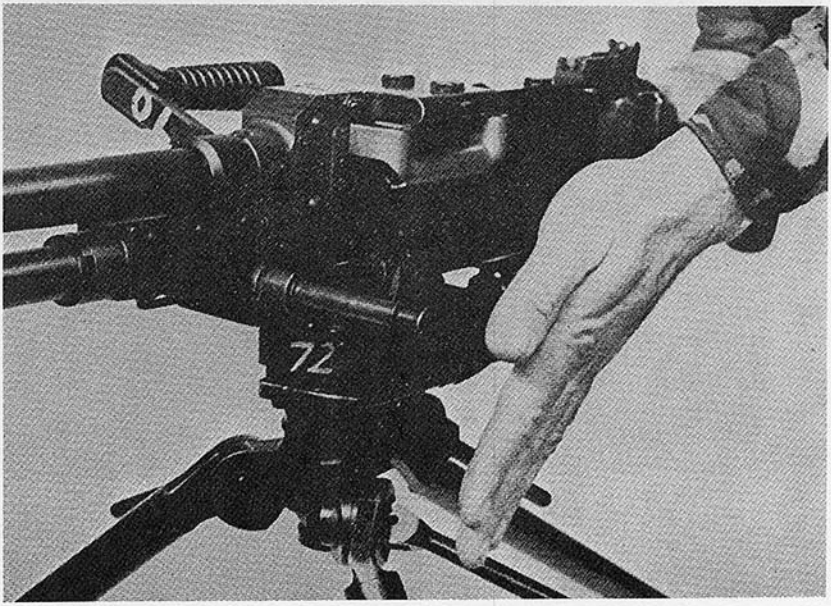



Fig. 33.—Inserting the front mounting pin

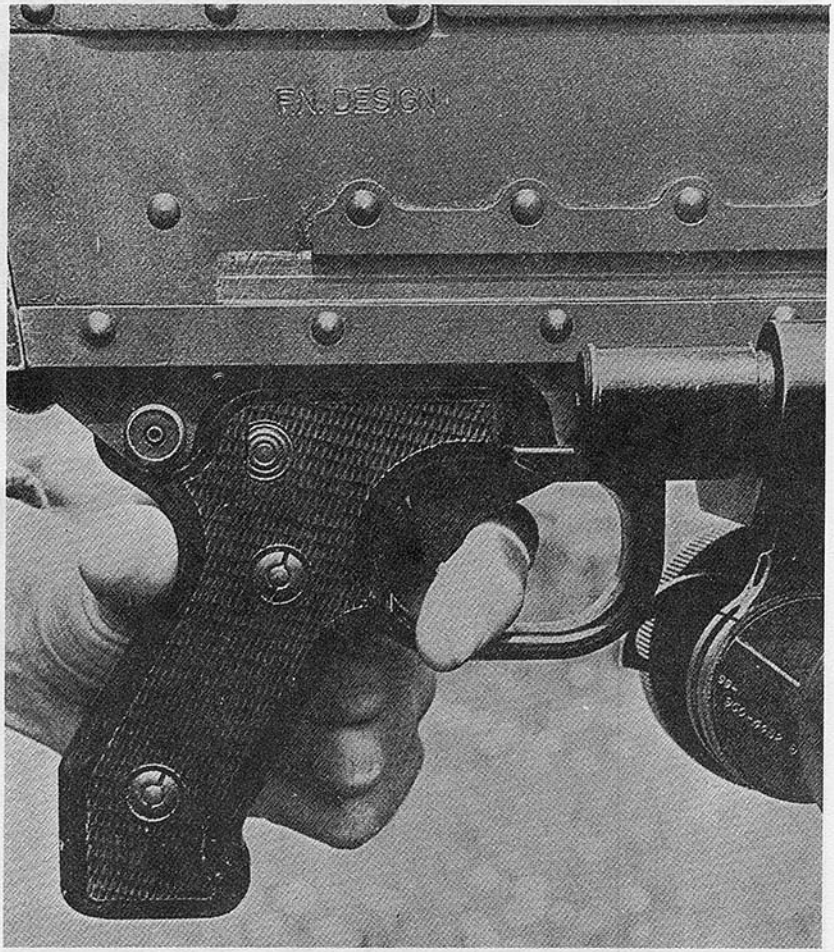



Fig. 34.—Firing from the tripod

## LESSON 8.—CLOSE QUARTER BATTLE AND ANTI-AIRCRAFT HANDLING

### A. INSTRUCTOR'S NOTES

150. **Aim.** *To teach the soldier how to fire the gun at close quarters and at aircraft.*

151. **Timings.** *One 40 minute period.*

152. **Method.** *A basic instructional outdoor period.*

153. **Stores:**

| | |
|---|---|
| *GPMGs fitted with slings* | *1 per three soldiers* |
| *Spare parts wallet* | *1 per gun* |
| *Drill rounds, belted* | *2 × 15 round belts per gun* |
| *Fig. 12 targets* | *3* |

154. **Preparation:**

**a.** *Reconnoitre the dry training area and note locations for close quarter battle (CQB) targets.*

**b.** *Targets should be placed out at ranges of up to 50 metres.*

155. **Miscellaneous:**

**a.** *During confirmation by practice of CQB, use soldiers as live targets having them suddenly appear from different directions and then disappearing.*

**b.** *Practise anti-aircraft (AA) drill for a two man team.*

**c.** *As soon as possible after instruction, soldiers should fire on a CQB and AA range under the safety rules and regulations laid down in Infantry Training, Volume III, Pamphlet No. 32, Range Construction and Regulations (All arms), Army Code No. 9486.*

**d.** *Extra barrels are necessary for AA live firing.*

### B. CONDUCT OF THE LESSON

#### PRELIMINARIES

156. **Safety Precautions.** *Normal.*

157. **Revision.** *Nil.*

#### INTRODUCTION

158. *Explain.* There are many occasions, i.e., in an assault, street fighting, in forest and close country, where the GPMG can be used as a close quarter weapon. It can also be used effectively in an anti-aircraft role by destroying the aircraft or by forcing it to climb higher, thus allowing other air defence systems to engage and destroy it.

#### CLOSE QUARTER BATTLE

159. *Explain and demonstrate, the squad imitating:*

**a. The position:**

(1) Loosen the sling, load, cock the gun and put the safety catch to safe.

Lift up the gun and loop the sling over either shoulder. Fold and lock the bipod legs underneath the gun. Loop the belt over the left arm. When moving keep the gun cocked and the safety catch at 'Fire'. To ensure safety e.g., when crossing obstacles, put the safety catch to 'Safe', returning it to 'Fire' when clear.

(2) When deciding over which shoulder to place the sling, it must be remembered that with the sling over the left shoulder it takes longer to bring the gun into its bipod role.

**b. Firing in CQB:** (*see* Fig. 24.)

(1) During the advance, hold the gun with the right hand on the pistol grip, forefinger clear of the trigger. The left hand should hold the folded bipod legs in such a manner that the fingers are clear of the barrel and gas cylinder.

(2) When a target appears, advance the left leg in the direction of the target, body leaning forward in the 'on guard' position, press the gun into the right side and hold it firmly.

(3) Fire in bursts by sense of direction and correct by observing the strike. The length of burst used depends upon the target and the range, but should never be less than three rounds.

(4) Although it is possible with training to fire whilst advancing, far better results are obtained by pausing momentarily to fire each burst. Firing from the waist requires good holding and a grim determination to hit the targets rapidly and accurately.

(5) Should the gun stop, go to cover quickly. Immediate action can be carried out kneeling on the right knee with the gun resting on the left thigh. The muzzle must be kept pointing in the direction of the enemy. Other stoppages may require the gun to be placed on the ground.

(6) The gunner must remember that before the belt is fully expended he should get to cover and load a fresh one. It is the duty of the No. 2 to see that the gun does not run out of ammunition. The length of belt will vary according to the terrain and the build of the gunner, but it should not be less than 40 rounds.

160. *Confirm by practice.*

## ANTI-AIRCRAFT DRILL

161. *Explain and demonstrate, the squad imitating:*

**a. The position:** (*see* Fig. 25.)

(1) Kneeling. Loosen the sling and place it over the right shoulder. Hold the gun with the bipod legs folded and kneel on the right knee which should be pushed well out to the right. Rest the butt on the thigh.

(2) The standing position may be used, this is similar to the CQB position with the head kept well back (*see* Fig. 26.).

**b. Firing at aircraft:**

(1) On the alert or stand to, cock the gun and adopt the AA position making sure that the safety catch is at 'Fire'.

(2) Concentrate on the target and:

(a) If the aircraft is coming straight at you point the gun at its nose.

(b) If it is slow and crossing, point the gun well in front of its line of direction so that it flies into the path of the bullets. You must swing with the aircraft.

(3) When it is necessary to turn about, turn to the right when possible since the No. 2 will be positioned on your left side.

(4) Whenever possible a 50 round belt should be fired off in one controlled burst, corrections being made by watching the tracer or from instructions given by the gun controller.

(5) If the tracer is seen to pass behind a crossing aircraft, a bold swing forward should be made to correct it.

(6) If a stoppage occurs, rest the gun across the left knee and carry out the Immediate Action.

(7) When firing from a trench, lean against the back of it for support.

(8) No gun is to fire more than 400 rounds continuously through the same barrel. This is to avoid overheating and consequent dangerous stoppages. Barrels are to be changed after every 400 rounds and not used again until hand cool.

162. *Confirm by practice.*

## CONCLUSION

163. **End of Lesson Drill.**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Confirm by questions and practice.*

**c.** *Safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *The importance of speed and accuracy in firing.*

(2) *A forecast of the squad's next lesson in this subject.*

## LESSON 9.—THE TRIPOD

### A. INSTRUCTOR'S NOTES

164. **Aim.** *To teach how to mount and dismount the gun and tripod and how to aim and fire the gun from the tripod.*

165. **Timings.** *Two 40 minute periods.*

166. **Method.** *A basic instructional lesson.*

167. **Stores:**

| | |
|---|---|
| *GPMGs* | *1 per three soldiers* |
| *Spare parts wallets* | *1 per gun* |
| *Tripods* | *1 per gun* |
| *Recoil buffers* | *1 per gun* |
| *Rear mounting pins* | *1 per gun* |
| *Half-filled sandbags* | *3 per tripod* |
| *Drill rounds, belted* | *15 rounds per gun* |
| *Landscape targets* | *1 (minimum requirement) but see para 168. c.* |

168. **Preparation:**

**a.** *Prepare arcs of fire and select reference points.*

**b.** *Lay out guns, belts, tripods, buffers and rear mounting pins.*

**c.** *Where possible use one identical landscape target per gun, positioned centrally in front of the gun's position.*

**d.** *Prepare fire control orders using different methods of indication. Check that all selected targets can be engaged from all gun positions.*

**e.** *Mount the tripod to be used during demonstrations and leave it mounted in position.*

169. **Miscellaneous:**

**a.** *Number the squad in groups of three and allocate one group per gun prior to normal safety precautions.*

**b.** *During practice, control the squad by using their numbers, i.e., 'No. 2 out . . . change', etc.*

**c.** *This lesson does not contain all the information about the tripod necessary to teach Sustained Fire training.*

### B. CONDUCT OF THE LESSON

#### PRELIMINARIES

170. **Safety Precautions.** *Normal.*

171. **Revision.** *Nil.*

#### INTRODUCTION

172. *Explain.* Each rifle company has three GPMG tripods used in the sustained fire (SF) role of the gun. It is important that each soldier is capable of mounting and dismounting the gun on to the tripod.

## THE TRIPOD (*see* Figs. 27., 28. and 29.)

173. *Explain and demonstrate:*

**a.** The tripod legs are held in position by clutch plates and secured by clamp levers. On the bracket at the pivot point of the legs there is a direction dial. The markings on the direction dial are not used and should be ignored.

**b.** A cradle is fitted to the bracket by a ball and socket joint. This is secured by the cradle locking lever. The cradle is buffered to absorb the recoil of the gun during firing. The gun is secured to the forward end of the cradle by a mounting pin. The rear mounting pin is fitted into the gun and engages into a slot in the rear mounting seating of the cradle.

**c.** A deflection drum is fitted to the right rear of the cradle; it is used to obtain adjustment in direction. When the drum is pulled outwards, the clicking device is brought into operation; each click is equal to two mils. When the drum is pushed inwards, the clicking device is taken out of operation.

**d.** Adjustments for elevation are obtained by rotating the elevation drum on the left rear of the cradle. The lock lever must first be released.

**e.** On the left bar of the cradle there is a dovetailed slot to take the tripod sight bracket.

174. *Confirm by questions. The instructor is to dismount the tripod.*

## MOUNTING AND DISMOUNTING THE TRIPOD

175. *Explain and demonstrate:*

**a. To mount the tripod:**

(1) Withdraw the tripod from the holdall and straddle it with the legs to the rear.

(2) Grasp the front bar of the cradle, lift the tripod so that the legs are vertical and grip the cradle between the thighs; unlock both clamp levers (*see* Fig. 30.).

(3) Lower the tripod to the ground, at the same time swinging both the legs forward (*see* Fig. 31.) until they are in a low mount position, as indicated by two mounting lines on the tripod bracket.

(4) Lock the levers and ensure that the rear or long leg is also in the low mount position.

(5) Release the cradle locking lever, and lift the rear of the cradle until it is horizontal. Secure the locking lever and pull out the front mounting pin. If necessary, rotate the deflection drum until the elevating gear is central on the traversing bar, and rotate the elevating drum until the small stud is in the centre of its slot.

**b. Points to note:**

(1) At all times the direction dial on the head of the tripod must be level.

(2) The long leg of the tripod should be to the rear, except when the tripod is mounted on a forward slope or on the side of a bank, when the long leg should be pointed down the slope.

**c. To dismount the tripod:**

(1) Push in the front mounting pin; ensure that the long leg is in the low mount position.

(2) Release the cradle locking lever and depress the rear of the cradle, locking it above the long leg.

(3) Straddle the tripod and grasp the front bar of the cradle. Unlock the front leg clamp levers. Raise the tripod to the vertical position, allowing the legs to drop. Grip the cradle between the knees. Ensure that both front legs are in line with the rear or long leg and clamp firmly.

(4) If the tripod is not required for further use return it to the holdall.

176. *Confirm by practice. Leave tripods mounted after final practice.*

## MOUNTING AND DISMOUNTING THE GUN

177. *Explain and demonstrate:*

**a. To mount the gun:**

(1) Check that the gun is unloaded and that the gas regulator is correctly set.

(2) Remove the butt and fit the recoil buffer, ensuring that the catch is properly engaged.

(3) Close the ejection opening cover and fit the rear mounting pin.

(4) Lift the gun and, ensuring that the flat surfaces on the rear mounting pin are rightly positioned (*see* Fig. 32.), push the gun fully forward and insert the front mounting pin (*see* Fig. 33.).

(5) Fold and lock the bipod legs.

(6) Check that the direction dial is level and stamp in the tripod shoes, placing sandbags or pieces of turf on the legs to ensure stability.

**b. To dismount the gun:**

(1) Ensure that the gun is unloaded.

(2) Release the bipod legs and pull out the front mounting pin.

(3) Draw the gun off the tripod to the rear.

(4) Replace the butt and remove the rear mounting pin. Replace the recoil buffer and rear mounting pin in the holdall.

178. *Confirm by practice.*

## LOADING, SIGHTSETTING AND AIMING

179. *Explain and demonstrate:*

**a.** The gunner adopts a position to the left rear of the gun, left hand on the pistol grip, right hand on the deflection drum. The No. 2 lies on the left of the gunner where he can best perform such duties as loading, observing fire, etc.

**b.** Loading is as previously taught for the light role.

**c.** On the range being ordered, the gunner sets the sights as taught, cocks the gun and puts the safety catch to 'S'.

**d.** When the target is indicated, the gunner calls '*Unlock*'. The No. 2 unlocks the cradle locking lever. The gunner roughly aligns the sights on to the target and calls out '*Lock*'. The No. 2 then pushes the locking lever fully home.

**e.** The gunner releases the elevation drum lock lever and rotates the elevation drum until the sights are in line for elevation, then tightens the lock lever. He then pushes in the deflection drum and turns it until the sights are in line for direction. A final adjustment for elevation is made if necessary. When he is satisfied that the aim is correct, the gunner is to pull out the deflection drum and report '*On*'.

180. *Confirm by practice.*

## FIRING FROM THE TRIPOD

181. *Explain and demonstrate:*

**a.** Firing from the tripod differs from that previously taught for the light role. So as not to influence the movement of the gun, only the left forefinger is placed on the trigger and the thumb behind the pistol grip as shown in Fig. 34. When the trigger is operated the head should be placed to one side of the sight so that the tracer and strike can be observed. The sequence of firing is:

(1) Check aim then move head clear.

(2) Fire length of burst required.

(3) Check aim and correct if necessary.

**b.** On the command '*Stop*', the gunner is to cock the gun, put the safety catch to 'S', ensure that his aim is correct, and report '*On*'.

182. *Confirm by practice.*

## CONCLUSION

183. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Confirm by questions and practice.*

**c.** *Safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *The importance of checking that the gun is clear before mounting or dismounting.*

(2) *A forecast of the squad's next lesson in this subject.*

## CHAPTER 2.

## PRACTICE PERIODS

### PRACTICE 1.—LESSONS 1, 2, 3 AND 4

### A. INSTRUCTOR'S NOTES

184. **Aim.** *To practise the soldiers in:*

**a.** *Safety, stripping, assembling and cleaning.*

**b.** *Loading and unloading.*

**c.** *Holding, aiming and firing.*

185. **Timings.** *Two 40 minute periods.*

186. **Method.** *An indoor practice period.*

187. **Stores:**

| | |
|---|---|
| *GPMGs* | *1 per three soldiers* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Drill rounds* | *10 per soldier* |
| *Links* | *10 per soldier* |
| *Drill rounds* | *1 per gun* |
| *Cleaning materials (flannelette, oil, cleaning rags)* | *As required* |
| *Landscape target* | *1 (minimum requirement see para 188. f.)* |
| *Stopwatch or watch with a second hand* | *1* |
| *Chalkboard* | *1* |
| *Scoresheet* | *1 (vide paragraph 188. b.)* |
| *Chalk (various colours)* | *As required* |

188. **Preparation:**

**a.** *Prepare a chalkboard for the final practice competition as follows:*

| *NAME* | *SAFETY* | *STRIPPING/ ASSEMBLING* | *LOADING (TIMING)* | *UNLOADING (TIMING)* | *TOTAL* |
|---|---|---|---|---|---|
| | | | | | |

**b.** *Prepare a scoresheet containing Training Tests, as per Chapter 4, Section 7, for safety, stripping and assembling, loading and unloading.*

**c.** *Check that the stop watch is fully wound and works.*

**d.** *Prepare arcs of fire and select reference points.*

**e.** *Lay out guns and spare parts wallets.*

**f.** *Where possible use one identical landscape target per gun, positioned centrally in front of the gun position.*

189. **Miscellaneous:**

**a.** *The following sequence is to be used to practise the soldier in each stage:*

(1) *Remind them of the more common errors related to the stage being practised.*

(2) *Assess weaknesses by practice.*

(3) *Work on the weaknesses by further practice.*

**b.** *The final practice is to combine all stages of the period and is to include:*

(1) *Training Test standards where applicable.*

(2) *Practise to those standards.*

(3) *Scores and standards achieved.*

**c.** *To score, for teams, give one point to the soldier coming last in a test, two points to the second last, three points to the third and so on.*

**d.** *Reteaching is only to be done when considered absolutely necessary.*

**e.** *Number the squad in groups of three and allocate one group per gun prior to normal safety precautions. Indicate arcs of fire and select reference points.*

**f.** *Lay out one drill round by each gun and 10 drill rounds and links by each soldier after normal safety precautions.*

**g.** *Practice in unloading as per the training test is included in the practice devoted to firing.*

**h.** *The practices can be divided into two parts; Part 1, paragraphs 190–197 inclusive and Part 2, paragraphs 198–202 inclusive.*

## B. CONDUCT OF THE LESSON

### PRELIMINARIES

190. **Safety Precautions.** *Normal.*

191. **Revision.** *Nil.*

### INTRODUCTION

192. *Explain.* In battle the soldier's own life and the lives of his comrades may depend a great deal on his ability to carry out the basic skills of safe handling, loading, unloading and making safe, etc, as instinctive actions. This ability is acquired only after a great deal of practice.

### SUGGESTED PRACTICES

193. **Description of the Gun.** *Question the squad on the characteristics and description of the gun.*

194. **Safety Precautions:**

**a.** *Explain.* In the training tests, the soldier is tested on his ability to carry out safety precautions correctly.

**b.** *Practise the squad in normal safety precautions.*

195. **Stripping, Cleaning and Assembling:**

**a.** *Explain.* In the training tests, the soldier is to strip the gun as for daily cleaning and then assemble it. There is no time limit and the soldier fails if he makes more than three mistakes.

**b.** *Practise the squad in stripping and assembling different parts. When they can strip each part faultlessly, practise them in complete stripping and assembling.*

196. **Cleaning:**

**a.** *Question the squad on the contents of the spare parts wallet and on cleaning under normal, desert, arctic and tropical conditions.*

**b.** For final practice, remove three objects from each spare parts wallet, return the wallets to the groups and ask them to say what is missing.

197. **Loading, Sight-setting, Making safe, Unloading:**

**a.** *Explain.* In the training test the soldier is tested on his ability to load the gun correctly. A soldier is skilled if he loads in eight seconds or less.

**b.** *Order the groups to make a belt from the drill rounds and links previously laid out, and to lay them by the guns.*

**c.** *Practise the squad in 'Load—300—make safe—unload', first as individuals then as a two man team, finally include 'Clear gun'.*

198. **Holding and Aiming.** *Practise the soldiers in adjusting to the target by giving a fire control order without the order to fire.*

199. **Firing:**

**a.** *Explain.* In the training test, the soldier is tested on his ability to unload. During firing, he is given the order to '*Stop, Unload*'. A soldier is skilled if he unloads in eight seconds or less.

**b.** *Use complete fire control orders. Check the 'limber up' before each burst.*

**c.** *Introduce 'Stop—Go on'.*

**d.** *Introduce 'Stop—unload'.*

**e.** *Practise first as individuals then as gun teams.*

200. **Length of Bursts, Rates of Fire and Moving Targets.** *Question the squad on:*

**a.** Length of burst related to types of targets.

**b.** Rates of fire related to order received.

**c.** Moving target; types and rule of engagement.

## FINAL PRACTICE

201. *A suggested method of conducting the final practice is as follows:*

**a.** *By competitions, individual and teams of three.*

**b.** *Practise each soldier in turn in safety precautions, stripping and assembling, loading and unloading after firing; soldiers are to fault check opposing team members.*

**c.** *Record individual soldier and team scores on the chalkboard.*

## CONCLUSION

202. **End of Lesson Drill.**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Safety precautions.*

**c.** *Pack kit.*

**d.** *Summary to include the following:*

(1) *The overall standard achieved and any weak points.*

(2) *A forecast of the squad's next lesson in this subject.*

## PRACTICE 2.—LESSONS 5 AND 6

### A. INSTRUCTOR'S NOTES

203. **Aim.** *To practise immediate action, gas stoppage drill and further actions required when the gun stops, or fails to fire.*

204. **Timings.** *One 40 minute period.*

205. **Method.** *An indoor practice period.*

206. **Stores:**

| | |
|---|---|
| *GPMGs* | *1 per three soldiers* |
| *Spare parts wallet* | *1 per gun* |
| *Drill rounds, belted* | *15 rounds per gun* |
| *Landscape targets* | *1 (minimum requirement see para 207. f.)* |
| *Stopwatch or watch with a second hand* | *1* |
| *Chalkboard* | *1* |
| *Scoresheet* | *1 (vide para 207.b.)* |
| *Chalk (various colours)* | *As required* |

207. **Preparation:**

**a.** Prepare a chalk board for the final practice competition as follows:

| *NAME* | *IA TIMINGS* | *GAS STOPPAGE TIMINGS* | *TOTAL* |
|---|---|---|---|
| | | | |

**b.** *Prepare a scoresheet containing Training Tests, as per Chapter 4, Section 7, for immediate action and gas stoppage drill.*

**c.** *Check that the stop watch is fully wound and works.*

**d.** *Prepare arcs of fire and select reference points.*

**e.** *Lay out guns, spare parts wallets and drill belts.*

**f.** *Where possible use one identical landscape target per gun, positioned centrally in front of the gun position.*

208. **Miscellaneous:**

**a.** *The sequence of practice is as explained in Practice 1, paragraph 189. a.*

**b.** *To score in the final practice, give one point to the soldier coming last in a test, two points to the second last, three points to the third from last, etc.*

**c.** *Reteaching is only to be done when considered absolutely essential.*

**d.** *Number the squad in groups of three and allocate one group per gun prior to normal safety precautions. Indicate arcs of fire and select reference points.*

**e.** *Loosen gas regulators to cater for gas stoppage drills.*

## B. CONDUCT OF THE LESSON

### PRELIMINARIES

209. **Safety Precautions.** *Normal.*

210. **Revision.** *Nil.*

### INTRODUCTION

211. *Explain.* The success of any action carried out by the infantry section is determined to a large degree by the continual fire support of its gun team. To maintain this fire support it is essential that the gunner can cope with any stoppage of the gun with the minimum delay. The ability to do this can only be achieved through a knowledge of the gun and a great deal of practice.

### SUGGESTED PRACTICES

212. **How the Gun Works.** *Question the squad on the basic mechanism of the gun.*

213. **Immediate Action:**

**a.** *Explain.* In the training tests, the soldier is tested on his ability to carry out immediate action correctly.

**b.** *Practise the squad in immediate action by using commands, then by tapping with a drill round to simulate firing.*

**c.** *Question the squad as to the cures effected by immediate action.*

214. **Gun Cannot be Cocked on Attempting Immediate Action:**

**a.** *Explain.* During this practice the squad is to assume that the gun won't cock.

**b.** *Question the squad as to the probable cause of the gun failing to cock.*

**c.** *Practise the squad by using commands, then by tapping with a drill round to simulate firing.*

215. **Gas Stoppage:**

**a.** *Practise the squad in gas stoppage drill complete with Immediate Action.*

**b.** *Question the squad concerning the action to be taken when a round is used as a tool to clear a stoppage.*

**c.** *Question the squad concerning action to be taken if gas stoppage recurs and is not remedied by these drills.*

216. **Obstruction in The Body; Empty Case in The Chamber:**

**a.** *Practise the squad in the action to cure an obstruction in the body.*

**b.** *Question the squad as to the cause of an empty case being in the chamber.*

217. **Broken Parts, Obstruction in The Barrel and Separated Case:**

**a.** *Questions from the squad on the action to be carried out when, on inspection, no obstruction is found.*

**b.** *Question the squad on the action to be carried out on locating an obstruction in the barrel.*

**c.** *Practise the squad on the action for a separated case.*

218. **Feed Pawl and Springs.** *Practise the squad in the actions to be carried out when the gun won't fire and cannot be fully cocked.*

219. **Runaway Gun.** *Practise the squad in the actions to be carried out on a runaway gun.*

## FINAL PRACTICE

220. *A suggested method of conducting the final practice is as follows:*

**a.** *By competitions, individual and teams of three.*

**b.** *Practise each soldier in Immediate Action and the gas stoppage drill; other soldiers are to check the opposing teams for faults.*

**c.** *Record individual and team scores on the chalkboard.*

## CONCLUSION

221. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Safety precautions.*

**c.** *Pack kit.*

**d.** *Summary to include the following:*

(1) *The overall standard achieved and any weak points.*

(2) *A forecast of the squad's next lesson in this subject.*

# CHAPTER 3

## LIVE FIRING

## LIVE FIRING 1.—INTRODUCTORY SHOOT 25 m—PREPARATION FOR FIRING; GROUPING AND LENGTH OF BURST; CLEANING AFTER FIRING

### A. INSTRUCTOR'S NOTES

222. **Aim.** *To teach how to prepare the gun for firing; to confirm that the soldier can aim, hold and fire the gun in controlled bursts and to teach how to clean the gun after firing.*

223. **Stores:**

| | |
|---|---|
| *Normal range stores* | |
| *GPMGs* | *As required* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Cleaning materials (flannelette, oil, cleaning rags)* | *As required* |
| *Empty sandbags/bins (for links and empty cases)* | *1* |
| *Ochre screen with four 25 mm (one inch) aiming marks 200 mm (eight inch) apart* | *1 per firer* |
| *Ammunition, 7·62 mm linked ball:* | |
| **a.** *Personal weapon* | *30 rounds per soldier plus 15 rounds per gun* |
| **b.** *Alternative Personal Weapon—Infantry* | *30 rounds per soldier* |
| **c.** *Alternative Personal Weapon—Other Arms* | *20 rounds per soldier* |
| *Ear defenders* | *1 pair per soldier* |
| *First Aid Kit* | *1 complete* |
| *Binoculars* | *1 per gun* |
| *Coach's notebook* | *1 per coach* |
| *Piece of talc with 125 mm (five inch) and 75 mm (three inch) circles inscribed thereon* | *1 per butt* |

224. **Preparation:**

**a.** *Prior to the day of firing:*

(1) *Book the range and confirm the booking and the targets required.*

(2) *Read Range Standing Orders.*

(3) *Indent for ammunition.*

**b.** *On the day of firing. Check each soldier for ear defenders.*

225. **Miscellaneous:**

**a.** *All soldiers are to be coached.*

**b.** *All range staff are to be fully conversant with the detail in Chapter 4, Section 4—Coaching.*

**c.** *Tracer is not to be used.*

**d.** *During the shoot, coaches are to watch the soldier firing and one soldier is to be nominated to note the arrival of the first shot of each group.*

**e.** *Records of gas regulator settings obtained on balancing the guns are to be kept for each gun in the armoury/platoon/section.*

**f.** *Guns used by soldiers for alternative personal weapon training will have been previously zeroed and balanced for the section gunner and are not to be altered except in the event of a gas stoppage.*

**g.** *The serial number of the gun fired by the soldier as an alternative personal weapon is to be recorded on his Personal Record Card.*

## B. CONDUCT OF THE LESSON

### PART 1

### PRELIMINARIES

226. **Safety Precautions.** *Normal.*

### PREPARING THE GUN FOR FIRING

227. *Explain and demonstrate:*

**a.** Strip the gun as for daily cleaning, clean it and leave the parts dry.

**b.** Open the dust cover, clean and oil the guide ribs, then close the dust cover.

**c.** As the gun is assembled, oil the bearing surfaces of the breech block and piston extension, locking lever and locking shoulder, feed arm and feed channel, the return spring and the trigger mechanism. (Ensure that the safety catch is at 'F' before assembly of the breech block and piston in the gun.)

**d.** Set the gas regulator at its correct setting, check there is no obstruction in the barrel and that it locks firmly into position.

**e.** Check the sights for tightness.

**f.** Ensure that the ball of the firing pin is seated correctly in its recess.

**g.** When the gun is assembled, press the trigger and move the working parts backwards and forwards a few times.

**h.** Check and repack the wallet.

228. *Confirm by practice.*

### ADVERSE CONDITIONS

229. *Explain and demonstrate:*

**a.** For tropical temperatures a special oil is used.

**b.** Graphite grease may be used sparingly in dry sandy climates or when operating in heavy prolonged rain.

**c.** Under arctic conditions use normal issued oil sparingly. In order to fire the gun when wearing thick gloves:

(1) Remove the trigger group, push out the trigger guard securing pin and take off the trigger guard.

(2) Replace the trigger group and place the trigger guard and securing pin in the spare parts wallet for safe-keeping. With the gun in this condition extra care and correct use of the safety catch are essential.

230. *Confirm by questions and practice.*

## BALANCING THE GUN

231. *Explain and demonstrate.* Each gun requires to be balanced to find the best gas regulator setting to ensure reliability combined with minimum vibration. This is done as follows:

**a.** Set the gas regulator setting at six clicks from fully closed.

**b.** Fire a burst of three to five rounds.

**c.** Apply the safety catch and move the cocking handle back until it contacts the working parts. The cocking handle should be level with the white line painted on the right hand side of the body. If this is so, push the cocking handle fully forward, open the gas regulator two clicks and repeat the above drill until the cocking handle stops about 12 mm (half an inch) in front of the white line.

**d.** When this happens, do not open the gas regulator further, instead, close it by four clicks.

**e.** Move the safety catch to 'Fire', fully cock the gun, fire a burst and confirm that the cocking handle now moves back to the white line.

**f.** Close the gas regulator fully, noting the number of clicks taken to do so. The number of clicks is to be recorded within the platoon/section.

**g.** Before any future firing, the gas regulator is to be fully closed and then opened by the number of clicks recorded.

**h.** If any gun fires sluggishly on its normal gas regulator setting and the adjustment fails to rectify the fault the unit armourer is to be informed and the gun is to be taken out of use until corrected.

**j.** When the gun fires and the cocking handle cannot be moved back to the white line, it is an indication that the gun is firing in a way that will cause accelerated wear. Continued use of the gun in this condition must not be permitted, since such wear could eventually lead to dangerous stoppages. The unit armourer is to be informed.

232. *Confirm by practice without firing.*

233. *Explain:* Every opportunity must be taken to clean, examine and oil the gun during lulls in firing. Special attention should be given to the chamber and gas affected parts. If time permits the breech block and piston should be removed, all fouling wiped off and then re-oiled as before. If this is not possible, open the top cover and squirt a few drops of oil on the locking levers, guide ribs and primary extraction face.

## PART 2

## PRACTICE DETAILS

234. **Safety Precautions.** *Normal as applicable to the 25 metre range being used.*

235. All soldiers whose personal weapon is the GPMG are to fire all practices detailed in paragraph 238.

236. Infantry soldiers whose alternative personal weapon is the GPMG are to fire practices 3, 4 and 5 only.

237. Soldiers of the other arms whose alternative personal weapon is the GPMG are to fire practices 2, 3 and 5 only.

238. Practice details are as follows:

| Practice | Range | Rounds | Target | Instructions |
|---|---|---|---|---|
| 1. Balancing | 25 m | 15 | Stop butt | As per paragraph 231. |
| 2. Drying the barrel | 25 m | Two | Stop butt | Fire one burst. |
| 3. Familiarisation | 25 m | Two 3 round belts | Stop butt | Fire each belt in one burst. |
| 4. Length of burst | 25 m | Four 3 round belts | Ochre screen as described in stores list | 1. Fire one burst of three rounds at each aiming mark. 2. Discuss groups. |
| 5. Confirmation | 25 m | 12 round belt | As for Practice 4 | As for Practice 4. |

## STANDARDS

239. The following are the standards to be achieved in Practice 5:

**a.** All soldiers whose personal weapon is the GPMG—a 75 mm (three inches) average group size.

**b.** All soldiers whose alternative personal weapon is the GPMG—a 125 mm (five inches) average group size.

## PART 3

### CLEANING AFTER FIRING

240. *Explain.* After firing, strip the gun and clean it using only the materials provided. The gun is easier to clean immediately after firing whilst it is still warm. If this is not possible, thoroughly oil all gas affected parts; this will assist in cleaning later.

241. *Explain and demonstrate.* Cleaning is carried out as follows:

**a. The barrel:**

(1) Attach the bore cleaning brush to the cleaning rod, oil the brush and clean out the barrel, working from both the chamber and the muzzle ends of the barrel in turn.

(2) Dry out the bore using the pull through and a piece of flannelette size 100 mm (four inches) by 50 mm (two inches).

(3) Inspect the bore and repeat if necessary.

(4) Oil the bore using the pullthrough and a piece of flannelette size 100mm (four inches) by 38 mm (1½ inches).

**b. The gas regulator:**

(1) Remove all fouling using the correct size reamer:

(a) There are three sizes of gas ports and escape holes. These are cleaned by using the gas port reamers, which are numbered 1 to 3:

(i) No. 1 is used to clean out the holes in the cylinder.

(ii) No. 2 is used for the holes in the gas regulator and gas block.

(iii) No. 3 is for the large hole in the gas block.

(2) The cleaner, gas regulator is used to clean out the rear of the gas regulator sleeve, and is also used as a scraper to clean the cannelure of the regulator sleeve. Clean the inner surface.

(3) The gas regulator will not be stripped further than as taught for daily cleaning.

**c. The piston group:**

(1) Insert the head of the piston and cylinder cleaning tool into the head of the piston, apply pressure to the handles and rotate the tool. Remove and inspect, repeat as necessary until all fouling has been removed.

(2) Clean the rest of the piston thoroughly, especially the face of the breech block.

**d. The body group:**

(1) Clean the cannelure and gas escape holes at the front of the cylinder with the cleaning tools provided.

(2) To clean the front of the cylinder insert the piston and cylinder cleaning tool into the cylinder, apply pressure to the handles and rotate the tool, repeat as necessary, until all fouling has been removed.

(3) Clean the gas cylinder with the oiled cylinder brush fitted to the cleaning rod. Dry out with a piece of flannelette wrapped round the brush.

(4) Clean the rest of the body, especially the guide grooves and feed mechanism. Open the dust cover and clean the guide ribs. Close the dust cover. Oil the parts and assemble the gun. Clean and check the contents of the spare parts wallet.

242. *Confirm by practice.*

## CARE AFTER FIRING

243. *Explain:*

**a.** Under normal conditions the bore chamber, piston and other gas affected parts must be thoroughly cleaned, inspected and reoiled daily over a period of several days after the gun has been fired.

**b.** In very dusty conditions guns must be dry cleaned and inspected daily. If oil has to be used to remove rust, use it sparingly and remove all traces afterwards.

## CONCLUSION

244. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Record grouping capacities.*

**c.** *Safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *Standards achieved.*

(2) *A forecast of the squad's next lesson in this subject.*

## LIVE FIRING 2.—GROUPING, 100 m

### A. INSTRUCTOR'S NOTES

245. **Aim.** *To determine the soldiers grouping ability with the GPMG.*

246. **Stores:**

| | |
|---|---|
| *Normal range stores* | *As required* |
| *GPMGs* | *1 per gun* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Cleaning materials (flannelette, oil, cleaning rags)* | *As required* |
| *Empty sandbags/bins (for links and empty cases)* | *2* |
| *Targets:* | |
| **a.** *Fig 11 with a 100 mm (four inch) by 75 mm (three inch) aiming mark.* | *2 per firer* |
| **b.** *Fig. 11 with a 100 mm (four inch) by 75 mm (three inch) white aiming mark mounted on a 1·220 m (four foot) square screen* | *2 per firer* |
| *Ammunition, 7·62 mm mixed linked* | |
| **a.** *Personal weapon* | *80 rounds per soldier* |
| **b.** *Alternative personal weapon* | *40 rounds per soldier* |
| *Ear defenders* | *1 pair per soldier* |
| *First Aid kit* | *1 complete* |
| *Coach's notebook* | *1 per coach* |
| *Binoculars (vide paragraph 248. c.)* | *1 per gun* |
| *Shooting record card* | *1 per soldier* |

247. **Preparation:**

**a.** *Prior to the day of firing:*

(1) *Book the range and confirm the booking and the targets required.*

(2) *Read Range Standing Orders.*

(3) *Indent for ammunition.*

**b.** *On the day of firing:*

(1) *Prepare guns for firing and check that the gas regulator for each gun is set correctly for the pre-determined balance.*

(2) *Check each soldier for ear defenders and shooting record cards.*

248. **Miscellaneous:**

**a.** *All firers are to be coached.*

**b.** *All range staff are to be fully conversant with the detail in Chapter 4, Section 4—Coaching.*

**c.** *During firing, the coach is to watch the soldier firing. A soldier, preferably the No. 2, can observe the target with binoculars purely for practice in observation of strike.*

**d.** *For alternative weapon firing, check that the serial number of the gun is the same as that on the firer's shooting record card.*

**e.** *Coaches are to record the size of a soldier's group formed by the first shot of every burst at each target.*

## B. CONDUCT OF THE LESSON

### PRELIMINARIES

249. **Safety Precautions.** *Normal as applicable to the type of range being used.*

### PRACTICE DETAILS

250. All soldiers whose personal weapon is the GPMG are to fire all practices detailed in paragraph 252.

251. Soldiers whose alternative personal weapon is the GPMG are to fire Practice 1. twice.

252. Practice details are as follows:

| Practice | Range | Rounds | Target | Instructions |
|---|---|---|---|---|
| 1. Grouping Fire Trench | 100 m | 20 | One Fig. 11 on the 1·220 m (four foot) screen as described in the stores list, in front and rear of the target frame. | 1. Soldier is to fire five rounds in bursts at each target.<br>2. Record first shot and burst group sizes and repeat.<br>3. Again record first shot and burst group sizes.<br>4. Calculate the average group size from total of four groups fired. |
| 2. Grouping Fire Trench | 100 m | 20 | One Fig. 11, as described in the stores list, in front and rear of the target frame. | As for Practice 1. |
| 3. Grouping Lying in the Open | 100 m | 20 | As for Practice 1. | As for Practice 1. |
| 4. Grouping Lying in the Open | 100 m | 20 | As for Practice 2. | As for Practice 1. |

## STANDARDS

253. The following are the standards to be achieved:

**a.** All soldiers whose personal weapon is the GPMG—a 300 mm (12 inch) average group size in Practice 4.

**b.** All soldiers whose alternative personal weapon is the GPMG—a 500 mm (20 inch) average group size in their repeat shoot of Practice 1.

## CONCLUSION

254. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Record grouping capacities.*

**c.** *Safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *Standards achieved.*

(2) *A forecast of the squad's next lesson in this subject.*

## LIVE FIRING 3.—ZEROING, 100 m

### A. INSTRUCTOR'S NOTES

255. **Aim.** *To superimpose the soldier's Mean Point of Impact (MPI) on the Correct Zero Position (CZP).*

256. **Stores:**

| | |
|---|---|
| *Normal range stores* | |
| *GPMGs* | *As required* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Cleaning materials (flannelette, oil, cleaning rags)* | *As required* |
| *Empty sandbags/bins (for links and empty cases)* | *2* |
| *Targets:* | |
| **a.** *Two Fig. 11 placed side by side on a 1·220 m (four foot) square screen, each target having a 100 mm (four inch) by 75 mm (three inch) white patch* | *2 per firer* |
| **b.** *One Fig. 11 on a 1·220 m (four foot) square screen. The target to have a 100 mm (four inch) by 75 mm (three inch) white patch.* | *1 per firer* |
| *Ammunition, 7·62 mm linked ball* | *30 rounds per gun* |
| *Ear defenders* | *1 pair per soldier* |
| *First aid kit* | *1 complete* |
| *Coach's notebook* | *1 per coach* |
| *Shooting record card* | *1 per soldier* |

257. **Preparation:**

**a.** *Prior to the day of firing.*

(1) *Book the range and confirm the booking and the targets required.*

(2) *Read range standing orders.*

(3) *Indent for ammunition.*

**b.** *On the day of firing.*

(1) *Prepare guns for firing and check that the gas regulator for each gun is set correctly for the pre-determined balance.*

(2) *Check that the hinge clip and Allen screws are not loose on the foresight.*

(3) *Check each soldier for ear defenders and shooting record cards.*

258. **Miscellaneous:**

**a.** *All range staff are to be fully conversant with the information contained in Chapter 4, Section 1—Zeroing.*

**b.** *Soldiers are to have achieved an average burst group size of 300 mm (12 inch) before being allowed to zero.*

**c.** *The correct zero position (CZP) is 75 mm (three inches) above the point of aim.*

## B. CONDUCT OF LESSON

### PRELIMINARIES

259. **Safety Precautions.** *Normal as applicable to the type of range being used.*

### PRACTICE DETAILS

260. Practice details are as follows:

| Practice | Range | Rounds | Target | Instructions |
|---|---|---|---|---|
| 1. Limbering Up. | 100 m | Five | Stop Butt. | Fire five rounds in bursts. |
| 2. Grouping Zeroing | 100 m | Four 5 round belts. | Two Fig. 11 targets as described in the stores list. | 1. Fire five rounds in bursts at each target.<br>2. Calculate the average MPI of the four groups.<br>3. Adjust the sights as necessary.<br>4. Enter adjustments in the soldiers shooting record card. |
| 3. Check Zero | 100 m | Five | One Fig. 11 target as described in the stores list | 1. Fire five rounds in bursts.<br>2. Check the MPI for correct zero. |

### STANDARDS

261. In Practice 3, the gun is correctly zeroed if the distance from the CZP to the MPI is within 25 per cent of the size of the check group fired.

### CONCLUSION

262. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Safety precautions.*

**c.** *Pack kit.*

**d.** *Summary. To include the following:*

(1) *The importance of correct zeroing.*

(2) *A forecast of the squad's next lesson in this subject.*

## LIVE FIRING 4.—APPLICATION OF FIRE, 200 m

### A. INSTRUCTOR'S NOTES

263. **Aim.** *To practise soldiers in engaging targets by deliberate fire at 200 m.*

264. **Stores:**

| | |
|---|---|
| *Normal range stores* | |
| *GPMGs* | *As required* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Cleaning materials (flannelette, oil, cleaning rags)* | *As required* |
| *Empty sandbags/bins (for links and empty cases)* | *2* |
| *Targets:* | |
| **a.** *Double Fig. 11.* | *1 per firer* |
| **b.** *Double Fig. 11 on a 1·220 m (four foot) square screen.* | *1 per firer* |
| **c.** *Replica targets* | *6 per firer* |
| *Ammunition, 7·62 mm mixed linked* | *60 rounds per soldier* |
| *Ear defenders* | *1 pair per soldier* |
| *First aid kit* | *1 complete* |
| *Coach's notebook* | *1 per coach* |
| *Binoculars vide paragraph 248. c.* | *1 per gun* |
| *Shooting record card* | *1 per soldier* |

265. **Preparation:**

**a.** *Prior to the day of firing.*

(1) *Book the range and confirm the booking and the targets required.*

(2) *Read range standing orders.*

(3) *Indent for ammunition.*

**b.** *On the day of firing.*

(1) *Prepare guns for firing and check that the gas regulator for each gun is set correctly for the pre-determined balance.*

(2) *Check each soldier for ear defenders and shooting record cards.*

266. **Miscellaneous:**

**a.** *Determine the firer's expected scoring area (ESA).*

**b.** *Confirm point of aim/wind allowance with the firer.*

**c.** *All firers are to be coached.*

**d.** *All range staff are to be fully conversant with the detail in Chapter 4, Section 4.—Coaching.*

**e.** *For alternative weapon firing, check that the serial number of the gun corresponds to that on the soldier's shooting record card.*

## B. CONDUCT OF THE LESSON

### PRELIMINARIES

267. **Safety Precautions.** *Normal as applicable to the type of range being used.*

### PRACTICE DETAILS

268. All soldiers are to fire all the practices detailed in paragraph 269. followed by Practices 2 and 4 as a repeat shoot.

269. Practice details are as follows:

| Practice | Range | Rounds | Target/Exposures | Instruction |
|---|---|---|---|---|
| 1. Deliberate. Fire Trench | 200 m | 10 | Double Fig. 11 on a 1·220 m (four foot) square screen. | 1. Soldier fires 10 rounds in bursts.<br>2. MPI of each burst to be signalled.<br>3. Shot holes are to be recorded on replica targets by the butt party. |
| 2. Deliberate. Fire Trench | 200 m | 10 | Double Fig. 11. | As for Practice 1. |
| 3. Timed. Fire Trench | 200 m | 10 | 1. Double Fig. 11 on a 1·220 m (four foot) square screen.<br>2. One exposure of 30 seconds. | 1. Order '*Load—200—Watch and Shoot*'.<br>2. Soldier fires 10 rounds in bursts during the exposure of the targets.<br>3. Shots to be signalled at the end of the exposure.<br>4. Shot holes to be recorded on replica targets by the butt party. |
| 4. Timed. Fire Trench | 200 m | 10 | Double Fig. 11. | As for Practice 3. |

### STANDARDS

270. The following are the standards to be achieved:

**a.** All soldiers whose personal weapon is the GPMG—a total of 14 hits in Practices 2 and 4 of the repeat shoot.

**b.** All soldiers whose alternative personal weapon is the GPMG—a total of 10 hits in Practices 2 and 4 of the repeat shoot.

## CONCLUSION

271. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Record scores.*

**c.** *Safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *Standards achieved.*

(2) *A forecast of the squad's next lesson in this subject.*

## LIVE FIRING 5.—APPLICATION OF FIRE, 300 and 400 m

### A. INSTRUCTOR'S NOTES

272. **Aim.** *To practise the soldier in engaging targets by deliberate fire at ranges of 300 and 400 metres.*

273. **Stores:**

| | |
|---|---|
| *Normal range stores* | |
| *GPMGs* | *As required* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Cleaning materials (flannelette, oil, cleaning rags)* | *As required* |
| *Empty sandbags/bins (for links and empty cases)* | *2* |
| *Targets:* | |
| **a.** *Triple Fig. 11s.* | *1 per firer* |
| **b.** *Three Fig. 11s on a 1·830 m (six feet) square screen* | *1 per firer* |
| **c.** *Replica targets* | *6 per firer* |
| *Ammunition, 7·62 mm mixed linked.* | |
| **a.** *Personal weapon* | *120 rounds per soldier* |
| **b.** *Alternative Personal Weapon, Infantry* | *120 rounds per soldier* |
| **c.** *Alternative Personal Weapon, Other Arms* | *40 rounds per soldier* |
| *Ear defenders* | *1 pair per soldier* |
| *First aid kit* | *1 complete* |
| *Coach's notebook* | *1 per coach* |
| *Binoculars* | *1 per gun* |
| *Shooting record card* | *1 per soldier* |

274. **Preparation:**

**a.** *Prior to the day of firing:*

(1) *Book the range and confirm the booking and the targets required.*

(2) *Read range standing orders.*

(3) *Indent for ammunition.*

**b.** *On the day of firing:*

(1) *Prepare guns for firing and check that the gas regulator for each gun is set correctly for the pre-determined balance.*

(2) *Check each soldier for ear defenders and shooting record cards.*

275. **Miscellaneous:**

**a.** *Determine the firers' expected scoring area (ESA) for each range.*

**b.** *All firers are to be coached.*

**c.** *Confirm point of aim/wind allowance with the firer.*

**d.** *All range staff are to be fully conversant with the detail in Chapter 4, Section 4.—Coaching.*

**e.** *For alternative weapon firing, check that the serial number of the gun corresponds to that on the soldier's shooting record card.*

## B. CONDUCT OF THE LESSON

### PRELIMINARIES

276. **Safety Precautions.** *Normal as applicable to the type of range being used.*

### PRACTICE DETAILS

277. **Infantry.** All soldiers are to fire all the practices detailed in paragraph 279. followed by Practices 2, 4, 6 and 8, as a repeat shoot.

278. **Other Arms.** All soldiers are to fire Practices 1, 2, 5 and 6 only.

279. The practice details are as follows:

| Practice | Range | Rounds | Target/Exposures | Instructions |
|---|---|---|---|---|
| 1. Deliberate. Fire Trench | 300 m | 10 | Three Fig. 11 on a 1·830 m (six feet) square screen. | 1. Firer fires 10 rounds in bursts.<br>2. MPI signalled for each burst. |
| 2. Deliberate. Fire Trench | 300 m | 10 | Triple Fig. 11. | 1. Firer fires 10 rounds in bursts.<br>2. MPI signalled for each burst. |
| 3. Deliberate. Lying in the open | 300 m | 10 | As for Practice 2. | As for Practice 1. |
| 4. Timed. Fire Trench | 300 m | 10 | As for Practice 2. One exposure of 30 seconds. | 1. Order '*Load—300—watch and shoot*'.<br>2. Firer fires 10 rounds in bursts during the exposure of the target. |
| 5. Deliberate. Lying in the open | 400 m | 10 | As for Practice 1. | As for Practice 1. |
| 6. Deliberate. Lying in the open | 400 m | 10 | As for Practice 2. | As for Practice 2. |
| 7. Timed. Lying in the open | 400 m | 10 | As for Practice 1. One exposure of 30 seconds. | 1. Order '*Load 400—watch and shoot*'.<br>2. Firer fires 10 rounds in bursts during the exposure of the target. |
| 8. Timed. Lying in the open | 400 m | 10 | As for Practice 2. One exposure of 30 seconds. | As for Practice 7. |

## STANDARDS

280. The following are the standards to be achieved:

**a. Infantry:**

(1) All soldiers whose personal weapon is the GPMG—a total of 28 hits in Practices 2, 4, 6 and 8 of the repeat shoot.

(2) All soldiers whose alternative personal weapon is the GPMG—a total of 20 hits in Practices 2, 4, 6 and 8 of the repeat shoot.

**b. Other Arms.** All soldiers should achieve a total of ten hits in Practice 2 and 6.

## CONCLUSION

281. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Record scores.*

**c.** *Safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *Standards achieved.*

(2) *A forecast of the squad's next lesson in this subject.*

## LIVE FIRING 6.—ADVANCED APPLICATION OF FIRE

### A. INSTRUCTOR'S NOTES

282. **Aim.** *To practise the GPMG gun numbers in taking up a fire position and engaging fleeting targets with deliberate fire.*

283. **Stores:**

| | |
|---|---|
| *Normal range stores* | |
| *GPMGs* | *As required* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Cleaning materials (flannelette, oil, cleaning rags)* | *As required* |
| *Empty sandbags/bins (for links and empty cases)* | *2* |
| *Targets, Triple Fig. 11* | *2 per firer* |
| *Ammunition, 7·62 mm mixed linked* | *100 rounds per soldier* |
| *Ear defenders* | *1 pair per soldier* |
| *First aid kit* | *1 complete* |
| *Coach's notebook* | *1 per coach* |
| *Binoculars* | *1 per gun* |
| *Shooting record card* | *1 per soldier* |

284. **Preparation:**

**a.** *Prior to the day of firing.*

(1) *Book the range and confirm the booking and the targets required.*

(2) *Read range standing orders.*

(3) *Indent for ammunition.*

**b.** *On the day of firing.*

(1) *Prepare guns for firing and check that the gas regulator for each gun is set correctly for the pre-determined balance.*

(2) *Check each soldier for ear defenders and shooting record card.*

285. **Miscellaneous:**

**a.** *Determine the firer's expected scoring area for each range.*

**b.** *All firers are to be coached.*

**c.** *Confirm point of aim/wind allowance with firer and his No. 2.*

**d.** *All range staff are to be fully conversant with the detail in Chapter 4, Section 4.—Coaching.*

**e.** *Gun No. 2s are to be coached in the observation of strike and tracer.*

### B. CONDUCT OF THE LESSON

**PRELIMINARIES**

286. **Safety Precautions.** *Normal as applicable to the type of range being used.*

**PRACTICE DETAILS**

287. All soldiers are to fire all the practices detailed in paragraph 288. followed by Practices 2, 4 and 5 as a repeat shoot.

288. Practice details are as follows:

| Practice | Range | Rounds | Target/Exposure | Instruction |
|---|---|---|---|---|
| 1. Deliberate. Lying in the open | 300 m | 10 | Triple Fig. 11. | 1. Firer fires 10 rounds in bursts.<br>2. MPI signalled for each burst. |
| 2. Timed. Lying in the open | 300 m | 10 | 1. Triple Fig. 11.<br>2. One 45 second exposure. | 1. Firers lined up 50 metres from the firing point. Guns loaded and carried.<br>Order '*Advance*'.<br>2. After 10 metres, signal for the target to be raised. Firers are to run to the firing point, adopt the prone position and fire 10 rounds in bursts. |
| 3. Deliberate. Lying in the open | 400 m | 10 | As for Practice 1. | As for Practice 1. |
| 4. Timed. Lying in the open | 400 m | 10 | As for Practice 2. | As for Practice 2. |
| 5. Timed. Advancing from 500 m to 300 m | 400 m<br>300 m | 10<br>10 | 1. Triple Fig. 11.<br>2. One 45 second exposure at each distance. | 1. Firer lying in the open at 500 m. Gun loaded with 20 rounds.<br>2. Order '*Advance*'.<br>3. When 35 metres from the 400 firing point the FPO signals for the target to be exposed. The firer runs to the firing point,. adopts the prone position and fires 10 rounds in bursts.<br>4. When the target goes down order '*Prepare to move*'.<br>5. When all firers are ready to move, order '*Advance*' and repeat the procedure at 300 m. |

## SCORING

289. One point per hit in the repeat shoot.

## STANDARDS

290. 28 points in the repeat shoot.

## CONCLUSION

291. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Record scores.*

**c.** *Safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *Standards achieved.*

(2) *A forecast of the squad's next lesson in this subject.*

## LIVE FIRING 7.—TARGET ENGAGEMENT, 500 and 600 m

### A. INSTRUCTOR'S NOTES

292. **Aim.** *To practise the GPMG gun numbers in target engagement at longer ranges.*

293. **Stores:**

| | |
|---|---|
| *Normal range stores* | |
| *GPMGs* | *As required* |
| *Spare parts wallet, complete* | *1 per gun* |
| *Cleaning materials (flannelette, oil, cleaning rags)* | *As required* |
| *Empty sandbags/bins (for links and empty cases)* | *2* |
| *Targets:* | |
| **a.** *Triple Fig. 11.* | *2 per firer* |
| **b.** *Replica targets.* | *1 per firer* |
| *Ammunition, 7·62 mm mixed linked* | *80 rounds per soldier* |
| *Ear defenders* | *1 pair per soldier* |
| *First aid kit* | *1 complete* |
| *Coach's notebook* | *1 per coach* |
| *Binoculars* | *1 per gun* |
| *Shooting record card* | *1 per soldier* |

294. **Preparation:**

**a.** *Prior to the day of firing:*

(1) *Book the range and confirm the booking and the targets required.*

(2) *Read range standing orders.*

(3) *Indent for ammunition.*

**b.** *On the day of firing:*

(1) *Prepare guns for firing and check that the gas regulator for each gun is set correctly for the pre-determined balance.*

(2) *Check each soldier for ear defenders and shooting record cards.*

295. **Miscellaneous:**

**a.** *Determine the firer's expected scoring area.*

**b.** *All firers are to be coached.*

**c.** *Confirm point of aim/wind allowance with the firer and his No. 2.*

**d.** *All range staff are to be fully conversant with the detail in Chapter 4, Section 4.—Coaching.*

**e.** *Gun No. 2s are to be coached in the observation of strike and tracer.*

## B. CONDUCT OF THE LESSON

### PRELIMINARIES

296. **Safety Precautions.** *Normal as applicable to the type of range being used.*

### PRACTICE DETAILS

297. All soldiers are to fire the practices detailed in paragraph 298. followed by Practices 2, 4 and 5 as a repeat shoot.

298. Practice details are as follows:

| Practice | Range | Rounds | Target/Exposure | Instruction |
|---|---|---|---|---|
| 1. Sighting | 500 m | 10 | Triple Fig. 11. | 1. Firer fires two bursts at the target.<br>2. MPI signalled after each burst. |
| 2. Timed | 500 m | 10 | 1. Triple Fig. 11.<br>2. Two exposures of 5 seconds over a period of one minute. | 1. Order '*Watch and Shoot*'.<br>2. The firer fires one burst at each exposure.<br>3. The target is to fall/be brought down when hit. |
| 3. Sighting | 600 m | 10 | As for Practice 1. | As for Practice 1. |
| 4. Timed | 600 m | 10 | As for Practice 2. | As for Practice 2. |
| 5. 600–500 m advance | 500 m | 10 | 1. Triple Fig. 11.<br>2. One exposure of 3 seconds.<br>3. An interval of 35 seconds then two exposures of 5 seconds over a period of one minute. | 1. Firer lying in the open at 600 m. The gun loaded.<br>2. The exposure of the target for 3 seconds is the signal to advance to 500 m and fire one burst at each exposure. |

### SCORING

299. One or more hits on the target in any one exposure = 1 point.

### STANDARDS

300. Four points in Practices 2, 4 and 5 (the repeat shoot).

## CONCLUSION

301. **End of Lesson Drill:**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Record scores.*

**c.** *Safety precautions.*

**d.** *Pack kit.*

**e.** *Summary. To include the following:*

(1) *Standards achieved.*

(2) *A forecast of the squad's next lesson in this subject.*

# CHAPTER 4

# INFORMATION FOR INSTRUCTORS

## SECTION 1.—ZEROING

### GENERAL

302. The gun is to be zeroed by the gunner to whom it is issued as a personal weapon. It is to be zeroed, lying in the open, from the bipod. Before the gunner is allowed to zero his gun, he should be capable of consistently achieving an average 300 mm (12 inches) burst group size at 100 metres. When zeroing is completed, each member of the section is to fire the gun and make a careful note of any alteration he requires to the sight-setting or point of aim.

### ZEROING PROCEDURE

303. Ideally the gun is zeroed at 100 metres but it can be done at 25 metres if there is no alternative. The procedure to be adopted when zeroing is:

**a.** Prepare the gun for firing in the normal way, ensuring that the gas regulator is set correctly for the pre-determined balance (vide Chapter 3 Live Firing 1.—Introductory Shoot, paragraph 231) and that the hinge clip and Allen screws are not loose on the foresight.

**b.** Fire five rounds in bursts to limber up and dry the barrel.

**c.** Fire four 5 round groups in bursts lying in the open.

**d.** Calculate the average MPI of the four groups and if it does not coincide with the correct zero position, adjust the foresight of the gun accordingly.

**e.** After adjustments have been made to the foresight, fire five rounds in bursts at the same aiming mark. The gun is correctly zeroed if the distance from the CZP to the MPI is within 25% of the size of the check group fired.

304. **Correct Zero Position (CZP).** The correct position of the MPI in relation to the POA at 100 metres and 25 metres for the light and sustained fire role gun barrels is:

| Sightsetting | Distance to Target | |
|---|---|---|
| | 100 metres | 25 metres |
| 200 | 75 mm (three inches) above the POA | 20 mm (about ¾ inch) above the POA |

305. **Sight Adjustment.** Errors in elevation and direction are corrected by adjusting the foresight into the error:

**a. Elevation.**

(1) Calculate the error up or down from the CZP. If the error is up, turn the foresight up, if down vice versa.

(2) One half turn of the foresight moves the MPI vertically about 50 mm (two inches) at 100 metres and about 12 mm ($\frac{1}{2}$ inch) at 25 metres.

(3) To turn the foresight, lift up the hinged clip from the rear of the foresight block and use the adjusting tool to screw the foresight up or down. To lock the foresight, push the hinged clip firmly down.

(4) There are two sizes of foresight—small and large. There are five complete turns on each foresight.

**b. Direction.**

(1) Calculate the error left or right from the CZP. If the error is left, move the foresight left, if right vice versa.

(2) One half turn of the adjusting screw moves the MPI horizontally about 75 mm (three inches) at 100 metres and about 20 mm ($\frac{3}{4}$ inch) at 25 metres.

(3) To move the foresight to the left, unscrew the left hand Allen screw the required amount with the Allen key of the adjusting tool. To lock the foresight, place the Allen key in the right hand Allen screw and holding the adjusting tool on the bend with the thumb and forefinger, gently turn the screw in a clockwise direction until resistance is met and clicks can no longer be felt. This moves the foresight along its dovetail. No attempt should be made to gain extra leverage by holding the end of the adjusting tool.

(4) If clicks cannot be felt when turning the adjusting screw, the foresight is to be checked by an armourer.

(5) A locking pin bears against serrations on the inside face of the lateral adjusting screw head, thereby holding the screw in position. This produces a clicking that can be felt when turning the screw. Over-tightening of the screw will cause damage to the extent that the head of the screw will eventually pass under the foresight, jamming it completely and rendering further adjustment impossible.

## SECTION 2.—ADDITIONAL STRIPPING AND ASSEMBLY

### GENERAL

306. In order to deal with broken parts or to clean the gun more thoroughly, other parts not previously taught may have to be stripped. Such further stripping is to be carried out only by those officers and NCOs who have received instruction on the subject on a recognized course.

## THE TRIGGER GROUP (*see* Figs. 6 and 35).

307. **To strip:**

**a.** Remove the pistol grip as taught.

**b.** Take out the screws holding the side plates and ease off the plates.

**c.** Set the safety catch to 'Fire'.

**d.** Pivot the safety catch clockwise until its lug is in line with the notch cut in the left side of the trigger guard. In this position the flat surfaces are downwards. Remove the safety catch.

**e.** Hold down the sear, push out the sear pin and lift the sear. Push out the sear spring pin and remove the sear spring.

**f.** Push out the trigger pin and remove the sear and trigger. Unlock the sear hook from the trigger.

308. **To assemble:**

**a.** Put the sear hook into the trigger with the nose of the sear uppermost. Insert into the frame, line up the trigger hole and insert the trigger pin. Lift the sear.

**b.** Replace the sear and trigger spring with the coil to the rear and secure with the pin. Ensure that the lower arm of the spring is outside the pin in the bottom of the trigger and not between the pin and the trigger.

**c.** Pull the sear down; insert the pin.

**d.** Replace the safety catch from the left, ensuring that the end marked 'S' goes in first, turn anti-clockwise until the flats are to the rear.

**e.** Press the trigger and release it, then push back the sear trip to release the sear.

**f.** Replace the sideplates.

**g.** Whenever the trigger group is removed, always ensure that the safety catch is at 'Fire' before assembling back in the gun.

## THE FEED MECHANISM (*See* Fig. 17.)

309. **To strip:**

**a.** Lift the top cover. Place the thumb of the left hand on the centre of the two pieces of the cartridge guide and exert slight pressure against the springs underneath. With the right hand, disengage the hook of the cartridge guide retaining pin, and remove the pin in a downward direction.

**b.** The two pieces of the cartridge guide are now free and care must be taken not to lose the two springs situated beneath the guide.

**c.** Hook the long arm of the feed control spring over the projection on the short arm; remove the retaining clip by pulling downwards, and lift out the feed arm.

**d.** Remove the circlip holding the feed pawls in place and take out the feed pawls. Do not strip further than this.

310. **To assemble:**

**a.** Replace the feed pawls over the pivot pin and replace the circlip correctly.

**b.** Engage the lower end of the feed arm onto the feed pawls and place the feed arm on to its pivot pin.

**c.** Replace the feed arm retaining clip in an upward direction, ensuring that an arm of the clip is on each side of the pivot pin with the straighter arm of the clip to the outside.

**d.** Release the long arm of the feed control spring and make sure that it is engaged in its recess on the left side of the feed arm.

**e.** Position the cartridge guide springs on their posts and put the two pieces of the guide together. (They can only fit together correctly one way.)

**f.** Place the pieces of the cartridge guide over their springs with the small piece uppermost. Line up the holes for the retaining pin and insert it in an upward direction.

**g.** When the pin is fully home, re-engage the hook in its recess and close the top cover.

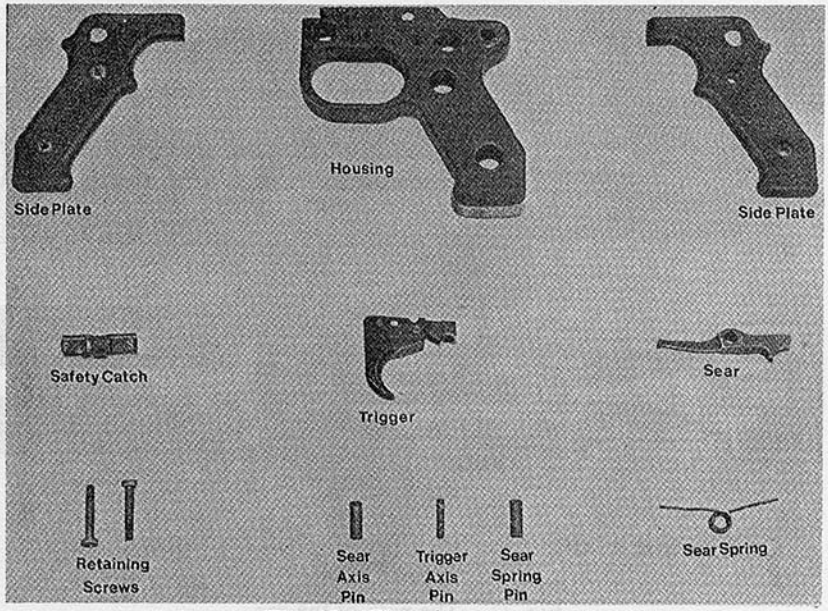



Fig. 35.—The trigger group

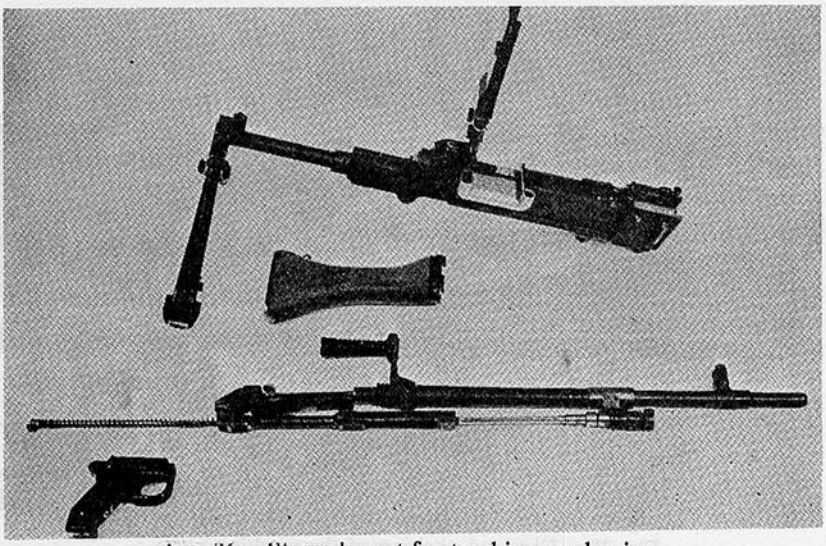


Fig. 36.—Stores layout for teaching mechanism

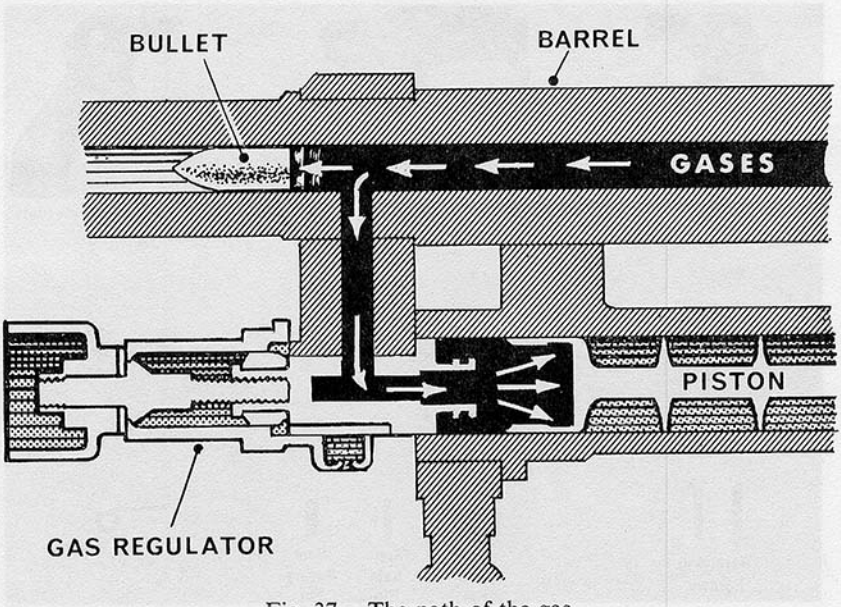



Fig. 37.—The path of the gas

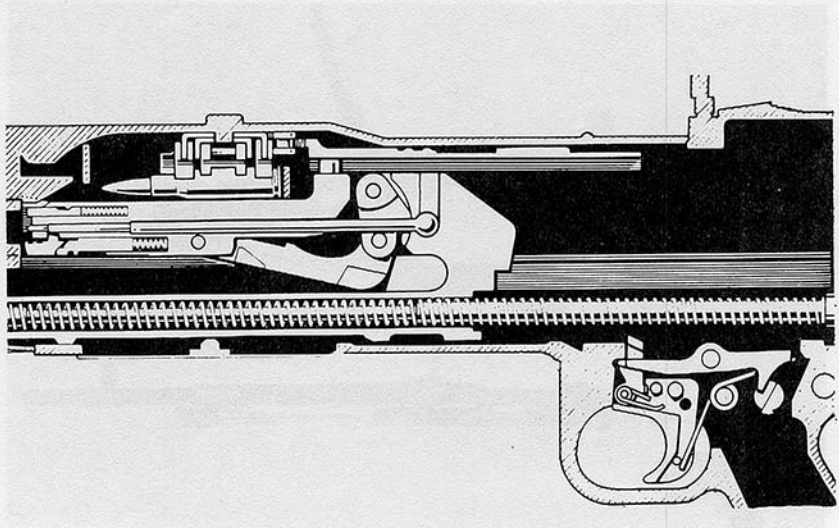


Fig. 38.—Forward position of the working parts

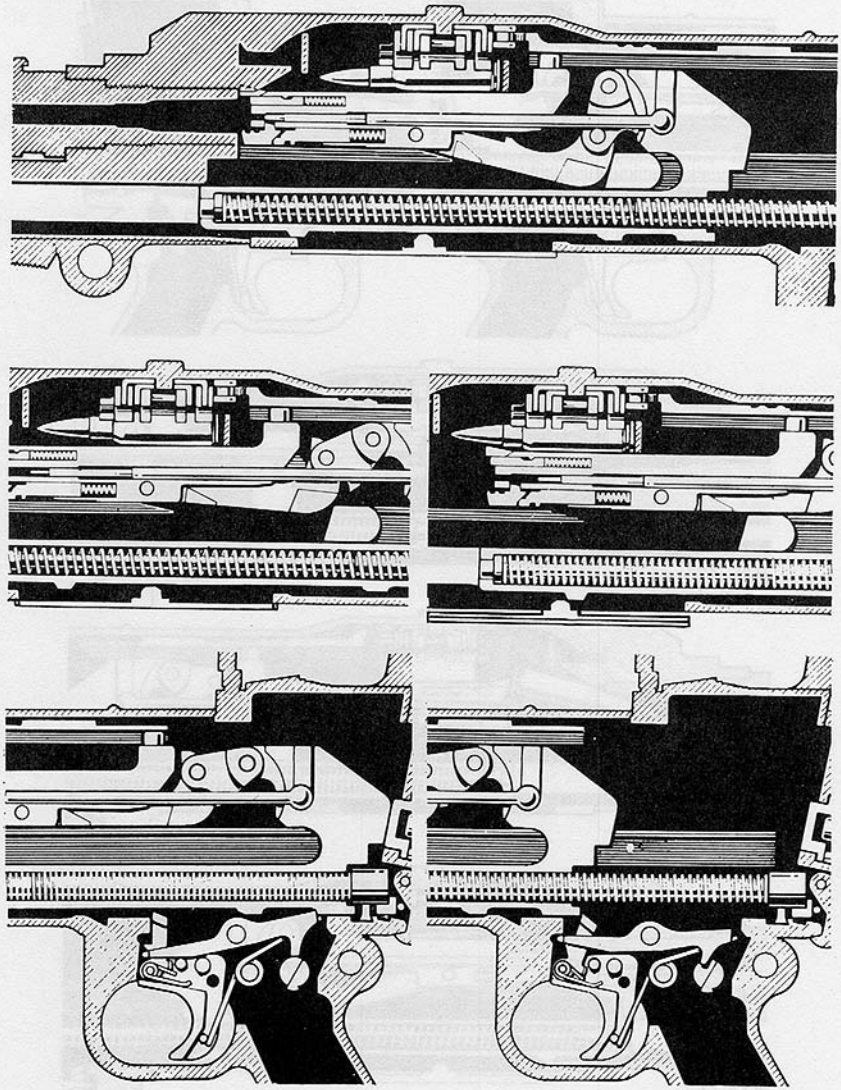


Fig. 39.—Rearward action on cocking and effect on the locking lever

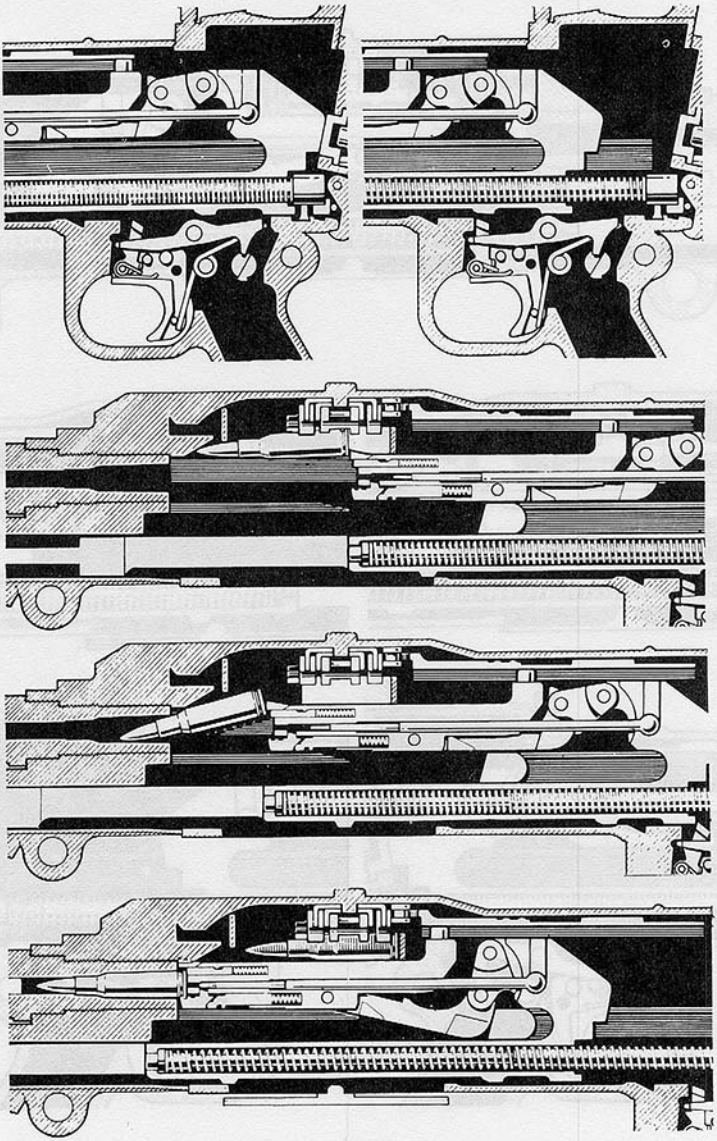


Fig. 40.—Forward action on operating the trigger

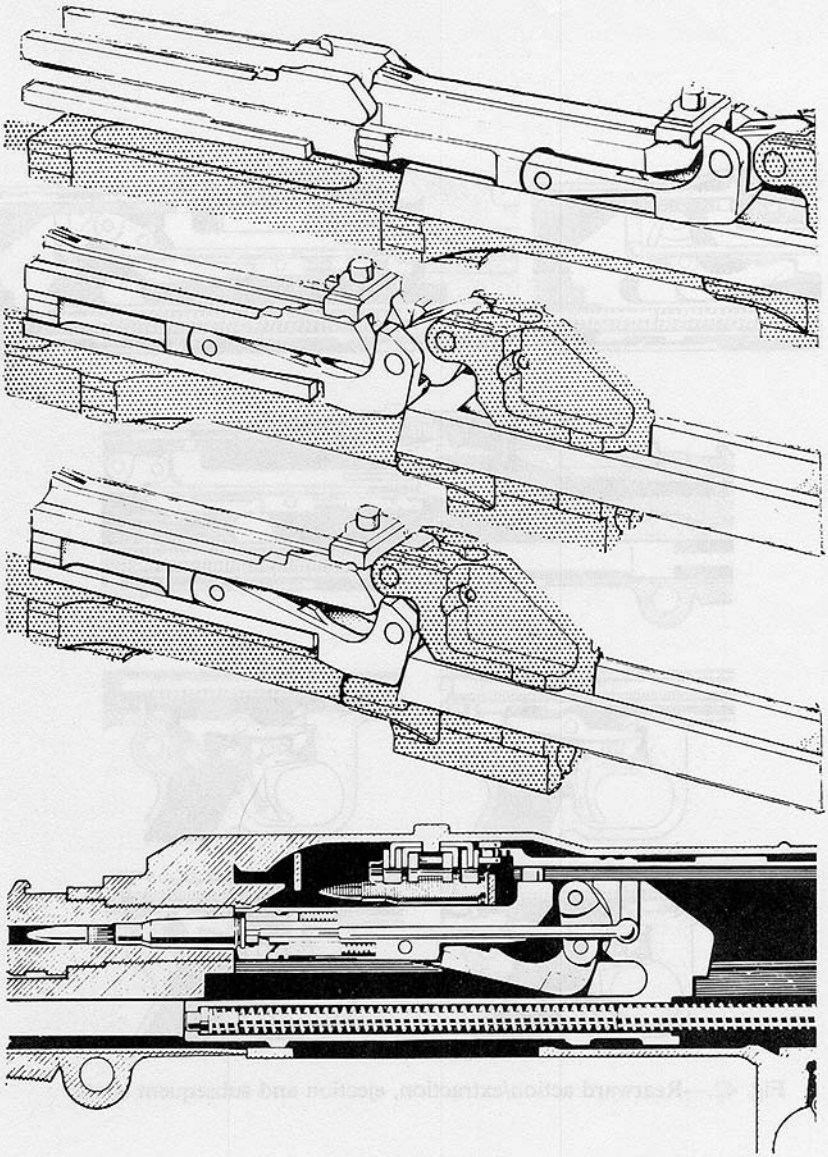


Fig. 41.—Effect on the locking lever on operating the trigger

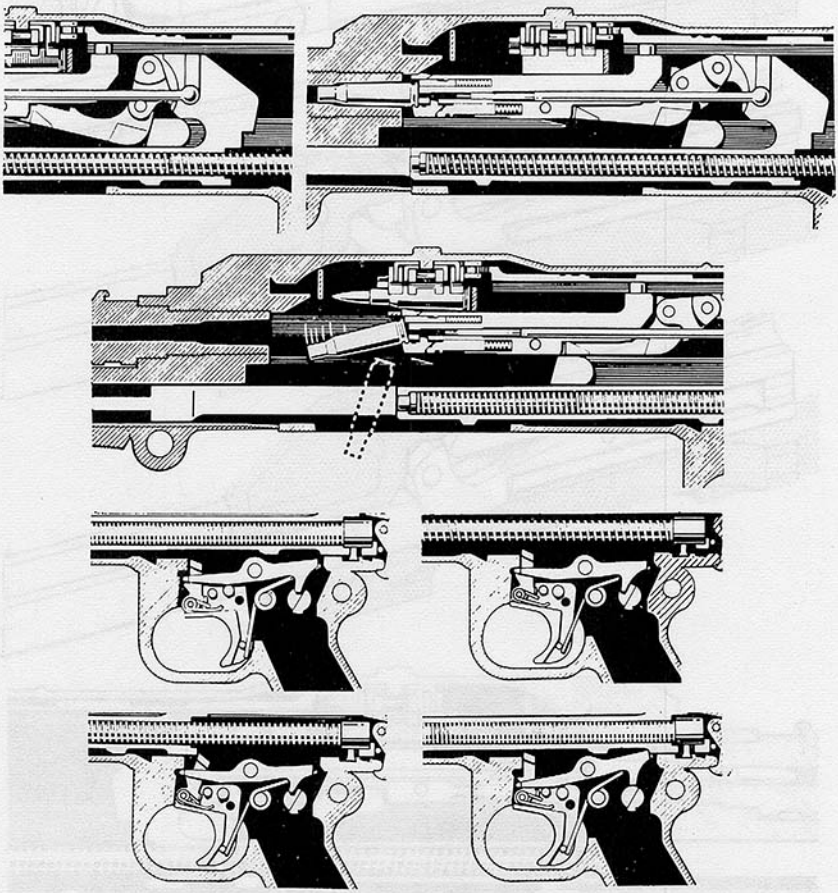


Fig. 42.—Rearward action/extraction, ejection and subsequent shots

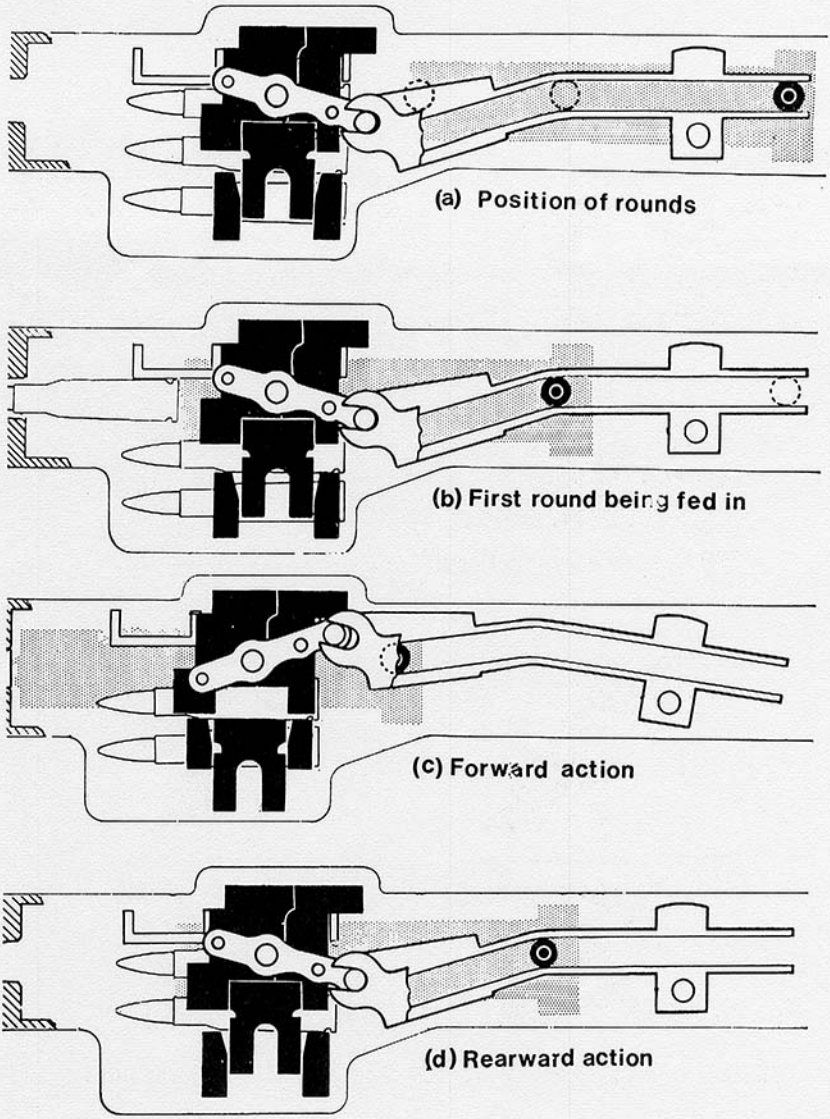
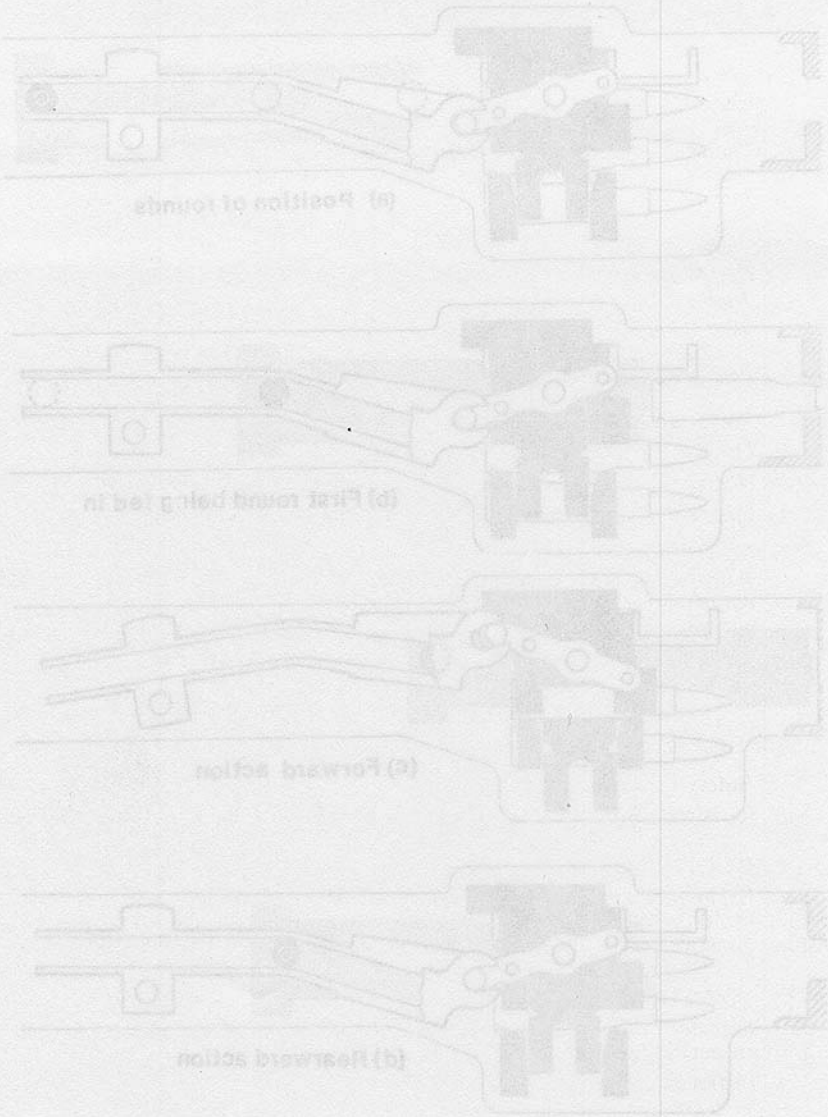



Fig. 43.—Feeding the rounds



## SECTION 3.—MECHANISM

### A. INSTRUCTOR'S NOTES

311. **Aim.** *To teach the mechanism of the GPMG.*

312. **Timings.** *One 40 minute period.*

313. **Method.** *An indoor instructional period for Officers and NCOs.*

314. **Stores:**

| | |
|---|---|
| *GPMGs* | *2* |
| *Tables* | *2* |
| *Drill rounds, belted* | *One 6 round belt* |
| | *One 4 round belt* |
| *Pencil (for use as pointer)* | *1* |

315. **Preparation:**

**a.** *Lay out the stores as shown in Fig. 36.*

**b.** *One gun is to be loaded after safety precautions have been completed.*

**c.** *Ensure that the safety catch of the stripped gun is set at 'Safe'.*

316. **Miscellaneous:**

**a.** *When applicable, show the action on the loaded gun, followed by detailed explanation on the stripped gun.*

**b.** *Teaching questions are to be used where possible and the squad are to be encouraged to use the stripped gun to demonstrate their answers.*

### B. CONDUCT OF THE LESSON

#### PRELIMINARIES

317. **Safety Precautions.** *Normal.*

318. **Revision.** *Basic mechanism, using the loaded gun. Leave the gun 'made safe'.*

#### INTRODUCTION

319. *Explain.* A thorough knowledge of the mechanism of the GPMG is essential to those NCOs and officers who are responsible for the teaching or supervision of instruction in the gun whether by dry training or live firing.

#### PARTS OF THE GUN

320. *Explain*, using the stripped gun. The following parts of the gun play an important part in this lesson.

**a. Piston extension:**

(1) Recess on the side.

(2) The bent.

(3) Projection on the underside.

**b. Breech block and locking lever:**

(1) Feed horns
(2) Ejector
(3) Locking lever link
(4) Actuating stud

**c. The body:**

(1) The locking shoulder and locking cams.
(2) The recess between the locking shoulder and the locking cams.
(3) Stud on the inside of the cocking handle slide.
(4) Projection on the ejection opening cover.

**d. The trigger:**

(1) The sear
(2) The tripping lever

**e. The top cover:**

(1) The inner and outer feed pawls
(2) Feed arm and feed channel

321. *Confirm by questions.*

**FORWARD POSITION OF THE WORKING PARTS** (*see* Fig. 38.)

322. *Explain, using the stripped gun.* When the working parts are fully forward, the locking lever is down in the recess between the locking shoulder and the locking cams. The breech block cannot therefore move directly to the rear so the breech is locked. The firing pin protrudes from the face of the breech block.

323. *Confirm by questions.*

**REARWARD ACTION ON COCKING** (*see* Fig. 39.).

324. *Demonstrate cocking using the loaded gun; explain the action in detail using the stripped gun:*

**a.** On cocking the gun, the piston and breech block are pulled to the rear by a stud on the inside of the cocking handle slide engaging in a recess on the piston extension. The projection on the ejection opening cover opens under pressure of its spring. The return spring and rod are compressed by the rear end of the piston. When the working parts are fully to the rear, the sear rises and engages in the bent.

**b.** The cocking handle must always be pushed fully forward after cocking the gun. If the gun is partially cocked a dangerous situation may occur, in which the breech block may be held back by the base of a round, and a sudden jolt may release it and fire a round.

325. *Confirm by questions.*

**EFFECT ON THE LOCKING LEVER ON COCKING THE GUN** (*see* Fig. 39.)

326. *Explain, using the stripped gun.* On cocking the gun, as soon as the piston begins to move, the firing pin is withdrawn into the breech block. The breech remains locked during this primary movement ((about 17 mm) (⅝ inch)). Continued movement of the piston causes the locking lever link to rotate forward and up on its axis lifting the locking lever out of engagement with the locking cams. The breech block is jerked slightly backwards. The breech is now fully unlocked.

327. *Confirm by questions.*

**FORWARD ACTION ON OPERATING THE TRIGGER** (*see* Fig. 40.)

328. *Demonstrate by operating the trigger on the loaded gun and by using the stripped gun and a belt of four rounds on the feed tray, explain:*

**a.** The first round is positioned in line with the chamber and is held in position by the cartridge stop and cartridge guide.

**b.** On pressing the trigger, the nose of the sear is depressed thus freeing the extension. The main spring pushes the working parts forward. The feed horns strike the base of the round and, assisted by the cartridge guide, feed it into the chamber.

329. *Confirm by questions.*

**EFFECT ON THE LOCKING LEVER ON OPERATING THE TRIGGER** (*see* Fig. 41.)

330. *Explain, using the stripped gun:*

**a.** As the working parts come forward and the round is fed into the chamber, the locking lever is forced down by the locking cams, thus slowing down the forward movement of the breech block. The piston extension, still moving forward, causes the locking lever link to rotate downward and back, thus forcing the arms down to their fullest extent in front of the locking shoulder. The extractor rides over the base of the round and the ejector is compressed. The round is now fully home with the breech locked.

**b.** The final forward movement of the piston extension drives the firing pin through the breech block on to the cartridge cap and fires the round. The working parts are now fully forward.

331. *Confirm by questions.*

**REARWARD ACTION, EXTRACTION/EJECTION AND SUBSEQUENT SHOTS** (*see* Fig. 42)

332. *Cock the loaded gun. Explain, using the stripped gun:*

**a.** When the round is fired, some of the gasses pass through the gas vent into the gas cylinder, strike the head of the piston and drive it to the rear as previously taught. (*see* Fig. 37.)

**b.** During the primary movement of the piston, when the breech is still locked, the bullet travels the distance from the gas vent to the muzzle.

**c.** The breech block being jerked back slightly is enough to effect primary extraction of the empty case.

**d.** When the breech is fully unlocked and the breech block starts its rearward movement, the extractor withdraws the empty case from the chamber. The ejector forces it from the face of the breech block out through the ejection slot.

**e.** The working parts continue to the rear and the return spring is compressed.

**f.** Provided that the trigger is kept pressed, there are rounds in the belt and sufficient gas made available by gas regulator adjustment to cause the working parts to rebound off the buffer, the action of feeding and firing will continue.

**g.** On releasing the trigger, the sear remains down but the tripping lever rises. As the working parts come to the rear, the end of the piston hits the tripping lever which, in turn, allows the sear to rise and engage in the bent, thus holding the working parts to the rear.

333. *Confirm by questions.*

**FEEDING THE ROUNDS** (*see* Fig. 43.)

334. *Using the stripped gun, top cover raised and a four round belt to show the position of the rounds in relation to the feed pawls, explain:*

**a.** The actuating stud moves up and down the feed channel which in turn moves the feed pawls.

**b.** The forward movement forces the outer pawls to the right, half feeding the round. The inner pawl rides over the round and settles behind it.

**c.** The rearward movement forces the inner pawl to the right, fully feeding the round. The outer pawls ride over the next round and settle behind it.

**d.** The action of fully feeding a round pushes the link of a fired round out of the side of the gun. The last link in a belt can not be pushed out and is cleared during the unloading. (*see* Fig. 14.)

335. *Confirm by questions.*

**SAFETY ASPECTS**

336. *Explain and demonstrate (using the stripped gun as necessary):*

**a.** A later model of the GPMG has a double nosed sear and a modified piston. When the working parts are withdrawn far enough for the breech block to engage behind the round in the feed tray, but not far enough to cock fully on the rear nose of the sear, the front nose of the sear is in a position to engage the piston bent. This prevents any possibility of a round being accidentally fed and fired.

**b.** The safety catch is recessed to take a lug positioned on the underside of the sear.

(1) When the safety catch is put to 'F' (Fire) this recess is directly under the sear lug and allows the sear to be operated. When the safety catch is put to 'S' (Safe) the recess is not in line with the lug, thus preventing operation of the sear.

(2) When the sear is in the lowered position the safety catch cannot be moved because the lug of the sear is in the recess of the safety catch.

(3) If the gun is assembled with the sear in the raised position and the safety catch is at 'S', the gun cannot be cocked because the sear is locked in the up position.

(4) Under no circumstances is the safety catch to be moved whilst the action of cocking is taking place. If the safety catch is moved a dangerous stoppage may occur.

337. *Confirm by questions.*

## CONCLUSION

338. **End of Lesson Drill.**

**a.** *Questions from the squad on the entire lesson.*

**b.** *Confirm by questions and practice.*

**c.** *Safety precautions.*

**d.** *Pack kit.*

**e.** *Summary to include the following:*

(1) *The importance of good maintenance.*

(2) *No unauthorized stripping of the mechanical parts.*

## SECTION 4.—COACHING

### GENERAL

339. The technique of coaching is to give advice when required and to endeavour to spot and correct faults as early as possible in order to improve the soldier's shooting techniques and knowledge to such a degree that he has the confidence and ability to use his weapon effectively in battle. To do this, the coach has to be alert and supremely patient, know the powers of the weapon and the ammunition and allow for the effect which the ability of the firer will have on those powers.

340. The layout of this section covers the individual aspects of coaching and then the sequence in which these aspects are applied as determined by the standard of shooting involved.

### THE FIRER

341. The coach learns about the firer from:

**a.** The size of the group which he achieves with the first shot of each burst. If this is large, it indicates that the firer is weak in his application of the marksmanship principles.

**b.** The average group size of the bursts fired. If this is greater than the laid down acceptable standards, it indicates that there is a fault in the firer's position and hold.

### THE GUN

342. The problems of holding the gun are quite different from that of the rifle. The rifleman must hold his rifle perfectly steady while perfecting his aim and then operate the trigger. This requires a firm hold. With the gun, the gunner has the bipod to assist him to hold the gun steady. Because of this factor plus the extra weight of the gun, the gunner tends to hold less firmly. This is a bad fault and the instructor must insist that at all times the gun is held firmly.

343. Each gun requires to be balanced to find the best gas regulator setting to ensure reliability combined with minimum vibration (*Vide* Chapter 3, Live Firing 1.—Introductory Shoot, paragraph 231.).

344. Each soldier should know the most suitable height of the bipod legs for his firing position. This is best remembered by counting back the number of clicks from the fully upright position.

### ZEROING AND SIGHTING

345. Although the gunner is to zero the gun as his personal weapon, each soldier training with it as an alternative personal weapon is to fire a grouping practice at 100 metres (*Vide* Chapter 3, Live Firing 2.—Grouping). The position of the average MPI of the groups fired in relation to the point of aim indicates what errors in either direction, elevation, or both, the firer can expect at longer ranges. This sighting information is essential for coaching purposes at longer ranges.

## POSITION AND HOLD

346. The soldier's ability to produce a small burst group is dictated by his position and the way in which he holds the gun. He is taught a basic firing position which suits the majority of soldiers but occasionally it is necessary to advise that the left hand is reversed to an underhand grip. This occurs when:

**a.** The soldier suffers discomfort through pressing the mouth against the knuckles of the left hand.

**b.** The soldier persists in pulling the gun to the left when firing.

## LIMBERING UP

347. It is most important that, before firing any burst, the firer aims at the target and tests his hold by rocking backwards and forwards slightly. If the foresight does not move directly up and down on the point of aim, the hold is not balanced and one hand is exerting a greater influence. The hold is to be adjusted slightly and retested until correct.

## DECLARATION

348. The firer is taught that when firing a burst, the firing drills learnt in firing a single shot with a rifle are applied, but that the hold and follow through are extended to cater for the rounds in the burst and full trigger release. During grouping and elementary application shoots only, he should therefore be briefed to declare after each burst:

**a.** Where the aim picture was at the start of the burst.

**b.** Any movement of the foresight which occurred during the burst.

**c.** Example: '*Correct—moved high right*'.

## LENGTH OF BURST AND GROUPING STANDARDS

349. The best length of burst to fire is determined by the type of target being engaged, the range to it and the skill of the firer. The soldier is trained to fire in bursts of two or three rounds against targets at ranges up to about 400 metres, and in bursts of three to five rounds against targets at longer ranges to assist in the observation of strike.

350. The required grouping standards from four groups of five rounds fired in bursts at 100 metres are:

**a.** Personal weapon: An average group size of 300 mm (12 inches).

**b.** Alternative Personal Weapon: An average group size of 500 mm (20 inches).

351. To achieve consistency in lengths of burst, the soldier should be allowed to get the 'feel' of a burst by firing several three round belts (*Vide* Chapter 3, Live Firing 1.—Introductory Shoot, paragraph 238.).

## EXPECTED SCORING AREA (ESA)

352. To successfully coach any type of application of fire, the coach must be able to determine the firer's ESA.

353. When a number of bursts are fired at the same point of aim, the size of the pattern increases until eventually it levels off and subsequent bursts will fall within it. This pattern is called a cone of fire.

354. To determine the size of the cone of fire for each soldier by firing would be costly and time consuming; however, it can be determined using a rule of thumb based on the assumption that its size is dictated by:

**a.** The firer's average burst group size recorded in the soldier's personal record card.

**b.** The soldier's ability to keep his bursts together, this is the size of group formed by the first round of each burst fired during grouping practices (*Vide* Chapter 3, Live Firing 2.—Grouping).

355. The rule of thumb to determine the ESA is to add the firer's average burst group to the size of his first shot group and multiply the answer by the hundred figure of the range to the target.

**a.** Average burst group size at 100 metres = 300 mm (12 inches)

**b.** First shot group size at 100 metres = 150 mm (6 inches)

**c.** Firing at 300 metres, ESA = 300 mm + 150 mm × 3
= 1.350 m (54 inches)

## TARGETS

356. For application of fire shoots, a single Figure 11 is used at 100 metres, a double Figure 11 at 200 metres and a triple Figure 11 at ranges of 300 metres and beyond. Each Figure 11 target measures 450 mm (18 inches) by 1120 m (45 inches).

357. The coach must compare the soldier's ESA against the overall dimensions of the target being engaged in order to determine whether some misses are acceptable, e.g., it is not reasonable for the coach to expect all shots to hit the target at 200 or 300 metres if the soldier's average burst group size plus his first shot group size at 100 metres is greater than 450 mm (18 inches). These factors are taken into consideration in determining the pass standards for the Personal and Alternative Personal Weapon Tests.

## COMMON FAULTS

358. The coach can detect and remedy the following common faults:

**a. By observing the firer's position before firing:**

(1) Pulling the gun into the shoulder instead of moving the body up to the gun.

(2) Having his body oblique to the gun.

(3) Positioning the bipod legs neither square to the target nor at a suitable height for the firer's build.

**b. By observing the firer during firing:**

(1) Closing the eye in use during the burst.

(2) Not following through the trigger release.

(3) Moving the body, particularly the right shoulder.

(4) Tightening or relaxing the hold.

**c. By observing the pattern of shots after firing:**

(1) If the group runs to the left of the first shot, this indicates that the right shoulder has not been brought up to the butt or that the body is too far to the left of the gun allowing the butt to move rearwards and to the right. It could also be caused by too much influence with the left hand.

(2) If the first shot hits the target near the POA but subsequent shots form a group at some other points, this indicates that the hold was tightened during the firing of the burst.

(3) A scattered group indicates loose holding.

## INTRODUCTORY SHOOT AT 25 METRES

359. Once the soldier has been taught and practised 'dry' in firing techniques and stoppage drills, he is ready to fire the introductory shoot at 25 metres (*Vide* Chapter 3, Live Firing 1.—Introductory Shoot). The aim of this shoot is to confirm that he can aim, hold and fire the gun in controlled bursts. The soldier is coached so that the basic firing faults are corrected before he progresses to firing at longer ranges.

360. The shoot includes (for both Personal and Alternative Personal Weapons) a familiarization practice to assist the soldier in getting the 'feel' of a burst of three rounds followed by a confirmation practice in which the soldier fires a twelve round belt in four bursts, each burst at a different aiming mark on a grouping screen.

361. To enable the coach to concentrate on the firer, a soldier from a waiting detail is nominated to note, using binoculars:

**a.** The first shot of the burst to arrive.

**b.** The order of arrival of subsequent shots in the burst.

## PROCEDURE BEFORE FIRING

362. The aim is to establish the firer's ability and to ensure that both he and the gun are prepared as fully as possible to achieve their best possible results:

**a.** Establish the firer's ability as previously discussed.

**b.** Check that the gas regulator is at the setting for the correct balance of the gun.

**c.** Confirm the practice/target number/lane number with the firer.

**d.** Confirm wind effect/point of aim.

**e.** Explain how and when corrections will be ordered, i.e.:

(1) By brief discussion between bursts during grouping or elementary application.

(2) By brief orders during advanced application.

**f.** If tracer is allowed, check that a tracer round is in the first three rounds of the belt being loaded.

**g.** Remind the firer to declare each burst in grouping and elementary application (*vide* paragraph 348.).

**h.** Check the sight setting when the range is ordered.

**j.** As the firer adjusts his position check detail already discussed in paragraph 358.a.

**k.** Check that the firer limbers up correctly (*vide* paragraph 347).

## PROCEDURE DURING FIRING

363. During grouping and elementary application, the aim is to observe the firer and correct errors in his techniques.

364. During advanced application, the aim is to act as a spotter and ensure that the bursts fall within the firer's ESA.

365. **Notes For The Coach:**

| | Grouping/Elementary Shoots | Advanced Shoots |
|---|---|---|
| **a.** Position | On firer's 'open' side. | Low behind the firer on line with the gun. |
| **b.** Observe | The firer for faults (Assistant observes the arrival of shots). | Strike/tracer — using binoculars. |
| **c.** Record | The firer's declaration and own observations in a coach's notebook. | |
| **d.** Correct | By brief discussion between bursts. | By issuing orders, i.e., '*Go left—steady*', etc. |

## PROCEDURE AFTER FIRING

366. For grouping practices the aim is to relate any visible errors to specific faults in technique and advise the firer on how these may be corrected.

367. For other practices, the aim is to relate the result of the shoot to the firer's ESA and inform the firer of any progress made.

368. **Notes For The Coach:**

| | Grouping | Elementary | Advanced |
|---|---|---|---|
| a. | DECLARATION. Check the position of the first shot and subsequent shots of each burst against the recorded declaration. | 1. Obtain total score and inform the firer of progress made. Relate the result to the firer's grouping capacity and standard laid down. | 1. Summarize the shoot and bring to the attention of the firer any points noted, i.e. reaction to wind change, stoppage, corrections given, length of burst, etc. |
| b. | SIZE OF GROUP:<br>(1) Formed by first shots in each burst.<br>(2) Taken from average size of bursts fired. | 2. Encourage by giving constructive advice. | 2. Encourage by discussion on points learnt. |
| c. | MPI. Record in Personal record card. | | |
| d. | PATTERN:<br>(1) Formed by first shots in each burst.<br>(2) Formed by each burst. | | |
| e. | ENCOURAGE. Give constructive advice for the next shoot. | | |

## SECTION 5.—THE PRINCIPLES OF SMALL ARMS ANTI-AIRCRAFT FIRE

### POLICY

369. The decision on general policy as to whether or not to engage enemy aircraft with small arms fire is the responsibility of the theatre commander; troops well dug in and well concealed are difficult to see from the air and guns may give the position away if they open fire. If the orders are to open fire, the following policy will apply.

**a.** To safeguard friendly aircraft and to prevent soldiers from disclosing their positions unnecessarily, fire discipline is to be maintained.

**b.** Units are to form special anti-aircraft teams from certain of their gun numbers and only these teams are to engage hostile aircraft, in the following circumstances:

(1) The aircraft is positively recognized by the firer as an enemy aircraft.

(2) The aircraft is identified as an enemy aircraft and is seen to attack a ground target.

(3) The aircraft, excluding light aircraft and helicopters, is positively identified as enemy and dives on to an object. Light aircraft and helicopters are excluded because friendly ones are liable to fly anywhere without notice and may dive suddenly in order to take evasive action. Sighting of suspected enemy light aircraft or helicopters by anti-aircraft gunners and air sentries is to be reported immediately to their superiors. Units are to report to higher formations, using a suitably modified version of the BOMREP code.

### EFFECT OF SMALL ARMS FIRE

370. Aircraft have to slow in order to identify and attack a ground target; they require to do a number of passes to identify and attack effectively. This allows ground troops more than one chance to engage them. The pilot can hear the crack of bullets going past him and see tracer if it is used. A controlled volume of small arms fire whether from the GPMG or the rifle section against aircraft at low level can therefore:

**a.** Damage the aircraft so that it crashes on its return to base, or is grounded for several days for repair.

**b.** Upset the pilot's aim thus forcing him to make another pass or abandon his mission.

**c.** Force enemy aircraft to climb to heights where other air-defence systems can engage them.

**d.** Make aircraft attacks less effective by forcing the pilot to fly faster.

## PROTECTION

371. **Whilst on the Move in Transport:**

**a.** As many vehicles as possible should have one or more anti-aircraft guns ready for action. Air Sentries must be alert and guns along the column trained to fire in different directions so that an attack can be met from any direction. Canopies and superstructures are to be so adjusted that the guns are instantly free to shoot.

**b.** If aircraft attack, guns are to open fire at once.

**c.** A column is not to halt except on the orders of the column commander. If it does halt for any other reason, column and vehicle commanders are to do all they can to get it moving again.

**d.** If a halt is ordered, or if for any reason the column halts and seems unlikely to get going again quickly, everyone is to debus at once and disperse clear of the road. Anti-aircraft gunners should take up positions to engage suitable targets.

372. **Whilst in the Open:**

**a.** Troops dispersed and well concealed are very difficult to spot from the air; this is therefore the best defence against low flying attacks.

**b.** When concealment is not so important, i.e., in camps or bivouacs whose location the enemy knows, anti-aircraft gunners should fire at all suitable enemy aircraft, unless specially ordered to the contrary.

## TRAINING

373. All infantry soldiers should be taught anti-aircraft fire discipline. In the other arms two men for each gun and adequate reserves are to be trained. Soldiers should be taught:

**a.** The effect of Small Arms Fire against aircraft.

**b.** To act as anti-aircraft sentries as well as gunners and to be able to judge likely lines of approach, i.e., out of the sun or cloud, or over woods and low hills.

**c.** To a high standard of handling and fire discipline related to current policy.

**d.** To work in pairs.

**e.** Aircraft recognition (*vide* Aircraft Recognition pamphlets).

**f.** To apply anti-aircraft fire discipline at every opportunity, expecially on collective training.

**g.** Unit SOPs relating to anti-aircraft drills for debussing, dispersing, embussing and co-ordinating anti-aircraft gun fire.

## SECTION 6.—PROTECTION DURING BEACH LANDINGS

### GENERAL

374. The GPMG will most probably function after being immersed in the surf, but the following precautions should be taken prior to a beach landing:

**a.** The muzzle and gas assembly are to be plugged and covered by rag, a plastic or some other suitable material to prevent sand from entering.

**b.** Graphite grease is to be applied to the return spring and telescopic rod.

**c.** If time and circumstances permit, the body should be covered by binding the feed tray and belt with cloth.

**d.** At the earliest opportunity the trigger group which is a natural sump should be removed and turned upside down to drain out the water.

**e.** After immersion, give the gun additional gas to ensure that it fires at the correct rate.

## SECTION 7.—TRAINING TESTS

### PURPOSE

375. The purpose of these training tests is to measure the standard of safety and handling with the GPMG so that instructors can monitor progress during recruit training and assess standards within their units.

### TESTING

376. Standards should be measured:

**a.** At appropriate stages during recruit training.

**b.** On completion of recruit training.

**c.** Annually in all units.

377. Results achieved are to be recorded on individual Training Record Cards.

### CONDUCT

378. The tests are to be done consecutively. They may be conducted either:

**a.** In barracks using drill or blank ammunition.

**b.** On a range using live or blank ammunition.

379. The attention of the Officer, WO or NCO in charge of the tests is to be drawn to Infantry Training, Volume III, Ranges and Courses, Pamphlet No. 31, Range Conduct and Safety Rules (All Arms) (Army Code No. 70495), Section 9, Paragraph 51.a. (as amended by Amendment No. 3, Sep/72) and Section 13, Paragraph 83.

### DRESS

380. Combat Equipment Fighting Order (CEFO) less steel helmet.

### DEFINITION OF STANDARDS

381. **a.** SKILLED. Pass in Test 1 and Skilled standard in all other tests.

**b.** AVERAGE. Pass in Test 1 and minimum of Average standard in all other tests.

**c.** FAIL. Fail in Test 1 or Fail in one or more of the other tests.

### TRAINING PERFORMANCE STANDARDS

382. **a.** Personal Weapon — Skilled

**b.** Alternative Personal Weapon — Average

### DETAILS OF THE TESTS

383. Full details of the tests are to be found in Annex A.

## TRAINING TESTS

| Test No. | Subject. | Stores | Conditions | Marking |
|---|---|---|---|---|
| 1 | Safety. | Gun loaded, cocked and safety catch at Safe.<br>Gun either in the corner of a room or on the firing point. | Order the soldier to bring the gun to the centre of the room, or to another position on the firing point. The soldier, without further directive, is to carry out the normal safety precautions on the gun. | The soldier is awarded 'Fail' if the safety actions are not carried out correctly. |
| 2 | Stripping<br>Cleaning<br>Assembling. | GPMG<br>Spare parts wallet complete.<br>One 7.62 mm drill round. | Order the soldier to strip the gun for daily cleaning. Ask him the following:<br>1. What size flannelette is used to clean the bore?<br>2. What size flannelette is used to oil the cylinder?<br>3. What spare parts for the gun are contained in the section wallet?<br>Order the soldier to assemble the gun. | The main purpose of this test is to assess the soldier's ability to strip and assemble the gun. He should therefore be assessed with this in mind.<br>Skilled : No mistakes<br>Average : 1–3 mistakes<br>Fail : More than 3 mistakes<br>Award no qualification if any mistakes affect safety. |
| 3 | Loading. | GPMG<br>Belt of 15 drill rounds.<br>Stop watch. | Gunner lying behind the gun.<br>Safety catch at 'Fire'. Belt on the ground on left of gun. Order '*Load*'. Time is taken from the order '*Load*' until the gunner has both hands in their proper position on the gun and the gun is upright. | Skilled : 8 seconds or less<br>Average : 9–12 seconds<br>Fail : Over 12 seconds<br>Add 2 seconds to the overall time for each mistake.<br>Award no qualification if any mistake affects safety. |





RESTRICTED

| Test No. | Subject | Stores | Conditions | Marking |
|---|---|---|---|---|
| 4 | Immediate Action and Gas Stoppage. | As for Test No. 3. | Gunner behind the gun; gun loaded and firing. Order '*Gun stops*'<br>When IA has been done, order '*Gun fires a few more rounds and stops again*'. Time taken from '*again*' until the gunner has aimed and fired the gun. Mistakes made in the IA count for the test. | Skilled : 8 seconds or less<br>Average : 9–10 seconds<br>Fail : Over 10 seconds<br>Add 2 seconds to the overall time for each mistake. Award no qualification if any mistake affects safety. |
| 5 | Unloading. | As for Test No. 3. | Gunner behind the gun; gun loaded and firing. Order '*Stop*' and when actions have been carried out correctly give the command '*Unload*'. Time taken from '*unload*' until the gunner is standing up behind the gun. | Skilled : 8 seconds or less<br>Average : 9–12 seconds<br>Fail : Over 12 seconds<br>Add 2 seconds to the overall time for each mistake. Award no qualification if any mistake affects safety. |
| 6 | Preparation for firing. | GPMG<br>Spare parts wallet, complete.<br>One 7.62 mm drill round.<br>Flannelette.<br>Oil. | Order the gunner to prepare his gun for firing. Without further directive the gunner should:<br>**a.** Strip the gun as for daily cleaning, clean and leave dry.<br>**b.** Open the dust cover, clean and oil the guide ribs then close the dust cover.<br>**c.** Oil the bearing surfaces of the breech block and piston extension, locking lever and locking shoulder, feed arm and feed channel, the return spring and the trigger mechanism.<br>**d.** Set the gas regulator at its correct setting, check there is no obstruction in the barrel and that it locks firmly into position. | The sequence used need not be as laid down in the conditions column but all aspects are to be completed.<br>Skilled : Up to 2 mistakes<br>Average : 3–5 mistakes<br>Fail : Over 5 mistakes<br>Award no qualification if any mistake affects safety. |

| Test No. | Subject | Stores | Conditions | Marking |
|---|---|---|---|---|
| | | | e. Check the sights for tightness.<br>f. Ensure the ball of the firing pin is seated correctly in its recess.<br>g. When the gun is assembled, press the trigger and move the working parts backwards and forwards a few times. | |


RESTRICTED


Fig. 44.—The IWS in transit case

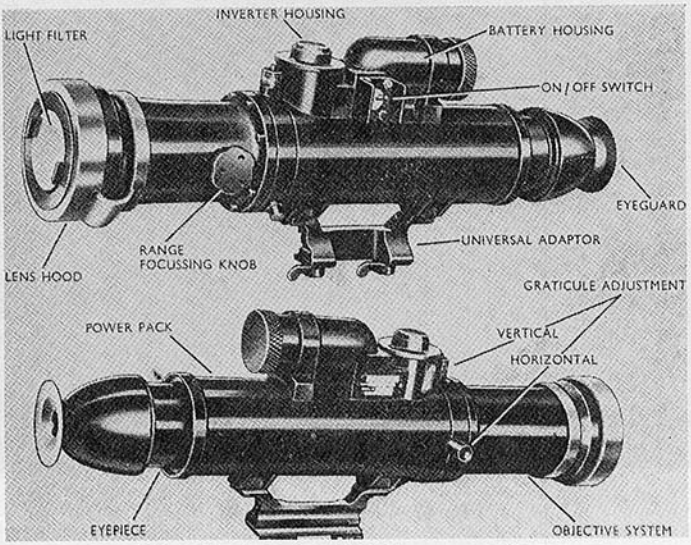



Fig. 45.—The individual weapon sight

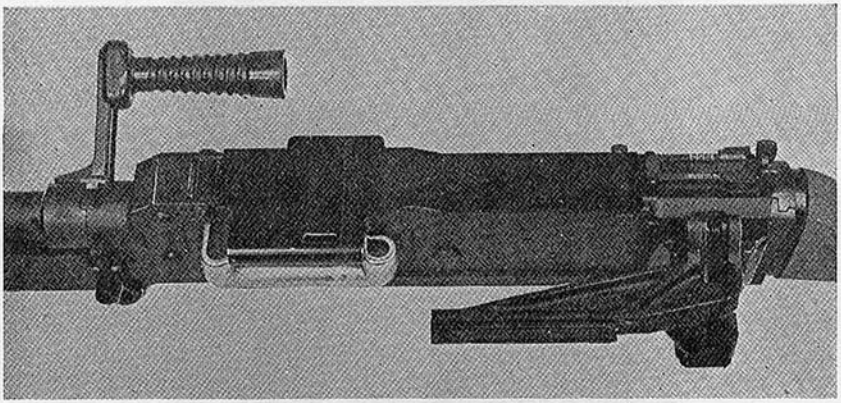


Fig. 46.—The sight mounting fitted

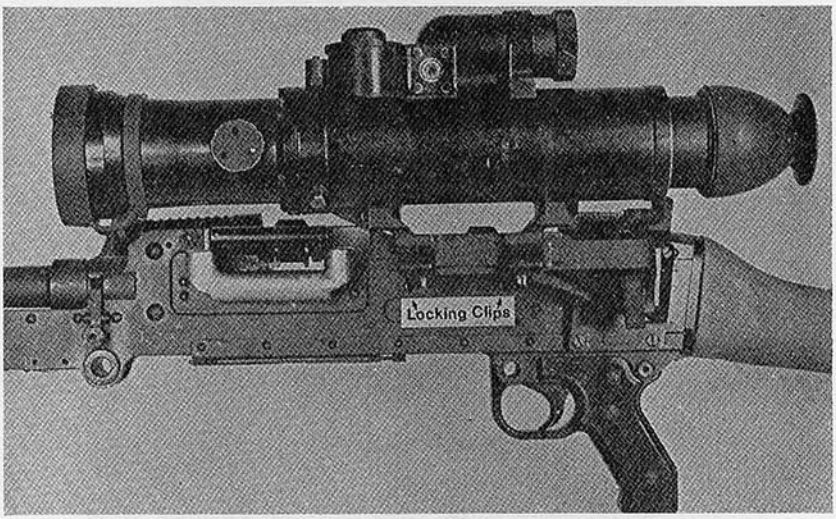



Fig. 47.—Fitting the sight

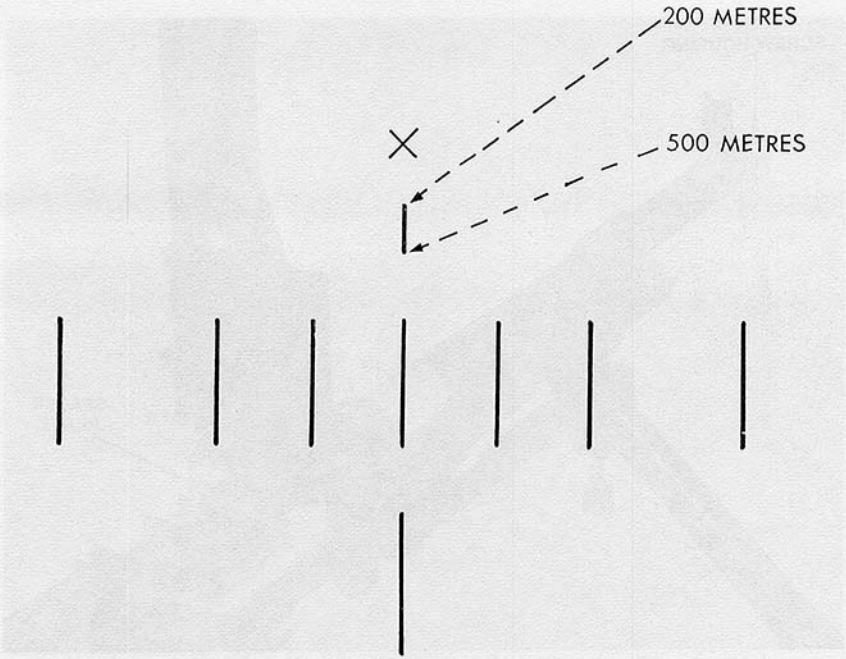



Fig. 48.—The reticle

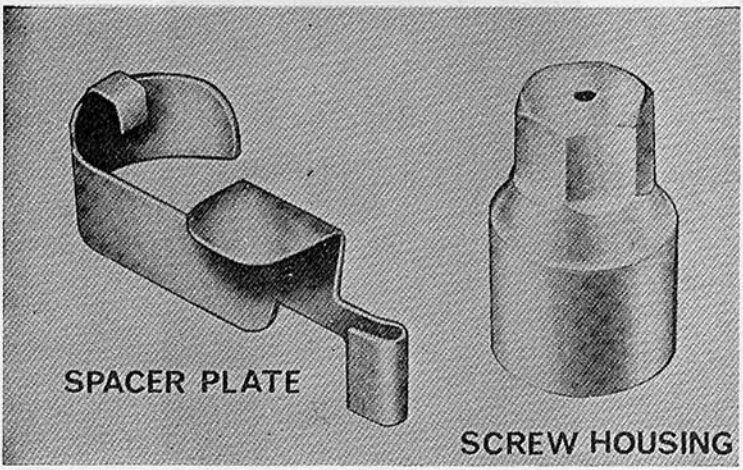



Fig. 49.—The blank firing attachments

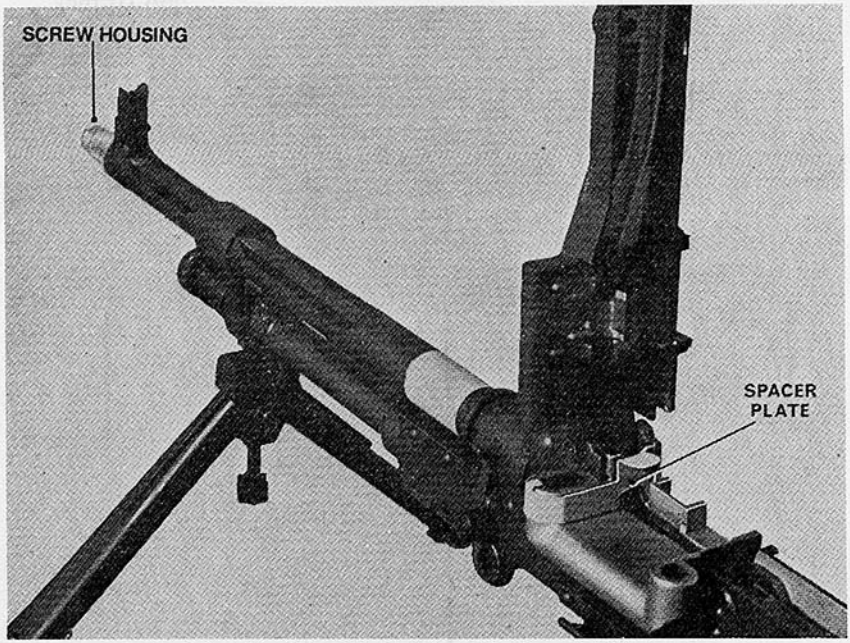



Fig. 50.—The blank firing attachments fitted

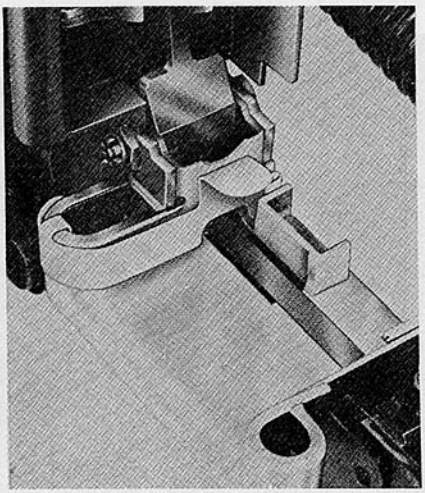


Fig. 51.—Correct position for the spacer plate

# CHAPTER 5

# MISCELLANEOUS

## SECTION 8.—THE 50 ROUND BELT BOX

### INTRODUCTION

384. At the discretion of the unit commander, 50-round belt boxes may be used in the close quarter battle role. These will prevent belts from becoming entangled in bushes and undergrowth. The gun can be fired from the bipod with the belt box fitted, but the box must be removed before a belt is loaded, otherwise stoppages may occur.

### TO FILL THE BOX

385. Open the box cover and place a 50-round belt in layers in the box. Open the feed cover, and thread the final five rounds through the feed opening.

### LOADING

386. Ensure that the ejection opening cover is closed and raise the top cover and feed tray. Place the lip on the right side of the belt box on to the lower rib on the left side of the gun, and engage the box locking recesses over the retaining button on the gun. Continue the actions of loading in the usual way.

### UNLOADING

387. Carry out the procedure for unloading as taught and remove the box by pressing down the box retaining catch.

## SECTION 9.—THE INDIVIDUAL WEAPON SIGHT (IWS)

### INTRODUCTION

388. This section deals solely with fitting the sight to the gun and the procedure for zeroing.

389. The IWS must be zeroed to the gun on which it is to be used.

390. The IWS can be zeroed in daylight on an open range, in the field using a distant aiming point, or on a 30 metre range using a screen.

### FITTING THE SIGHT TO THE GUN

391. The sight mounting is fitted into the dovetail bracket on the left side of the gun with the arm pointing forward (*see* Fig. 46.).

392. After releasing the locking clips on the underside of the sight (*see* Fig. 47.), the sight is pushed onto the keyway on the sight mounting from the rear until it is fully forward. The locking clips are then engaged to secure.

## REMOVING THE SIGHT

393. To remove the sight, reverse the procedure.

## ZEROING PROCEDURES

394. **Zeroing at 100 metres on an Open Range:**

**a.** Ensure that the sight is fitted with a battery and that the lens hood is in place.

**b.** Fit the IWS to a previously zeroed gun.

**c.** With the iron sight set at 200, align the sights onto the correct point of aim on the target. Using sandbags or an assistant, secure the gun in that position.

**d.** Set the ON/OFF switch on the IWS to ON.

**e.** Whilst viewing the target through the eye piece, adjust the light filter and focusing knob (*see* Fig. 45.), to obtain a clear image and reticle.

**f.** Using the graticule screws (*see* Fig. 45.), move the 200 metre aiming point of the pattern (see Fig. 48.), until it is on the same point of aim as the iron sight.

**g.** Check that the iron sight has remained laid on.

**h.** Remove the sandbags securing the gun and fire four 5 round groups using IWS.

**j.** The mean MPI of the four groups should be within a 100 mm (four inch) circle, the centre of which should be 75 mm (three inches) above the point of aim.

**k.** If the MPI is not within the circle an adjustment is required. The gun is relaid onto the correct point of aim using the IWS and secured in that position. Without moving the gun, the reticle pattern is moved until the 200 metre aiming point is laid on the position of the mean MPI.

**l.** A check group should be fired to confirm the adjustment.

Note. Careful alignment of the sight should ensure correct zeroing without firing.

395. **Zeroing in the Field Using a Distant Aiming Point:**

**a.** Select a well defined object at a range of approximately 200 metres.

**b.** Follow the procedure laid down in paragraph 394. **a.** to **g.**

396. **Zeroing on a 30 metre Range:**

**a.** The target required is a screen on to which two aiming marks are pasted, one, 95 mm (3¾ inches) to the right and 40 mm (1½ inches), below the other. (Bottom centre to bottom centre.)

**b.** Ensure that the sight is fitted with a battery and that the lens hood is in place.

**c.** Fit the IWS to a previously zeroed gun.

**d.** With the iron sight set at 200, align the sights on to the correct point of aim on the lower aiming mark. Using sandbags or an assistant, secure the gun in that position.

**e.** Using the graticule adjusting screws, move the 200 metre aiming point of the reticle pattern until it is in the correct position on the top aiming mark.

**f.** Check that the iron sight has not moved off.

**g.** A group is now fired, using the IWS laid on the aiming mark. The MPI of this group should be 20 mm ($\frac{3}{4}$ inch) above the bottom of the lower aiming mark with a permissible variation of 10 mm ($\frac{1}{2}$ inch).

## SECTION 10.—THE BLANK FIRING ATTACHMENTS

### INTRODUCTION

397. The blank firing attachments consist of a screw housing and a spacer plate (*see* Fig. 49.).

### FITTING

398. The screw housing should be fitted by the unit armourer to a selected barrel. The spacer plate can be fitted by either the armourer or an NCO (*see* Figs. 50. and 51.).

### SAFETY

399. The blank firing attachments are to be used only in conjunction with blank ammunition. Since the blank round is the same shape as ball ammunition it is important that the soldier can recognize the difference. A blank round has a crimped nose which is painted green and this fact must be constantly emphasized by the instructor or the commander whenever blank ammunition is used.

400. A danger area of 30 metres exists immediately to the front of the GPMG when firing 7.62 blank ammunition with, or without the attachments fitted. The gun must never be pointed directly at a person within this range. Great care must be taken when the weapon is used during house clearing or close quarter exercises. Before use the attachments are to be inspected by an NCO to ensure they are securely fitted to the weapon.

### BALANCING THE GUN

401. The procedure for balancing the gun as detailed in Chapter 3, Live Firing 1.—Introductory Shoot, paragraph 231. is to be carried out when preparing the GPMG to fire blank ammunition.

402. The gas pressure build up is greater when firing blank ammunition than when firing ball; this increases the recoil action at all gas regulator settings and the fact must be remembered when carrying out the stoppage drills. Chapter 1, Lesson 5.—Immediate Action and Gas Stoppage Drill, paragraph 107. must be clearly understood to ensure the correct drill is carried out.

## CLEANING

403. The screw housing and barrel should be cleaned by the unit armourer. The gas regulator can be cleaned in the normal way by the soldier.

## DESTRUCTION OF WEAPONS

1. If on active service it is necessary to destroy machine guns to prevent them being used by the enemy, the following action will prove effective:

**a.** Plug the barrel near the chamber or bury the muzzle in the ground; load and fire the gun by using string tied to the trigger, from behind cover.

**b.** Strip the weapon as far as possible; bury parts or scatter over as wide an area as possible.

**c.** Retain essential parts of the mechanism such as useable firing pins, etc.

**d.** All spare parts should be disposed of.

2. Should the foregoing destruction drills not be possible, other methods must be devised, e.g., destroying by explosive charges or by fire, running over by vehicles, scattering components in rivers or undergrowth.

3. Unfired ammunition can be destroyed by explosives, using improvised demolition charges made up with grenades, bombs, etc.

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